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ABSTRACT

In this study, investigators made an experimental comparison of four curricula for Head Start classes: (1) the official (or "traditional") Head Start program, emphasizing enrichment of experience, individual differences, a climate of freedom, and learning by doing, (2) the DARCEE program, emphasizing reinforcement of attitudes combined with training in basic skills and intensive work with mothers, (3) the academic drills approach of Bereiter and Engelmann, emphasizing the ability to handle linguistic and numerical symbols, and (4) the Montessori program, characterized by a high degree of structure in respect to the analysis and sequencing of tasks, combined with great flexibility in that each child is expected to pursue his own interests. During the 1968-69 school year 14 classes were conducted--two Montessori classes, and four classes in each of the other program styles. The 4-year-olds in these classes were pre- and posttested with nine instruments, selected to assess gains in cognitive, motivational, social, and perceptual development. A non-preschool control group was also tested. Classes were monitored periodically throughout the year to assess treatment dimensions. All phases of the first year of this study are now complete. Data analysis is in process. Tables and appendices are included. (Author/NH)

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I. TREATMENTS

The independent variable in this research is composed of a number of other complex variables. "Programs" differ with respect to philosophy of education, goals of preschool, content and organization of curriculum, and methods and techniques used to achieve these goals. Moreover, all of these program aspects must be translated into teachers' classroom activity, where their effects, if any, will be manifest. Training programs, no matter how long or how thorough, cannot insure that trainees will implement what they have been taught. Labeling a classroom "Montessori" or "Traditional" may be only slightly more informative than labeling therapies Freudian or non-directive.

The first step in a definition of treatments was to make a complete and detailed description and analysis of each program. Information on which these descriptions are based was obtained primarily from four sources: (1) publications by program developers explaining and describing their programs or some aspects of them, (2) publications recommended to teachers as required reading or source material in training programs, (3) lectures and workshops during pre-service and in-service training programs, (4) personal conversations with program developers, personnel in training programs, and consultants.

It must be pointed out that complete consistency is not to be found among these sources--nor within them. The most difficult program to analyze is the Traditional. In this case much weight was given to the Rainbow Series of official Office of Economic Opportunity publications about Head Start and to Hymes. (1968).

A. Description of Programs

1. "Bereiter-Engelmann"

(a) Characteristics of the Target Population

Little is said explicitly in this program regarding the characteristics of young children, but it is implicit in the nature of the program that preschoolers are capable of a substantially greater amount of learning than they are normally exposed to. Implicit also is the assumption that acceleration in respect to learning will not be dangerous or harmful to the preschool child if properly handled, that is, focused on specific areas, and the intensive effort limited to short periods. Implicit also is the assumption that many preschool children will not already possess a motivation to learn. Recognition is given to individual differences in learning rates. The picture of the preschool child that emerges from Bereiter and Engelmann's book (1966) is that of a sturdy little organism who is maleable, not particularly sensitive, learns slowly, but will learn whatever he is taught.

Emphasis is placed on the disorder and lack of discipline which characterize the background of the disadvantaged preschool child. Since these children have frequently not been rewarded for intellectual effort, they will not be motivated to learn. Moreover, they may not have learned to value verbal praise from adults. Their most striking deficit, however, is in the area of language, and much attention is devoted to an explication of the important difference between a language which is sufficient for social intercourse and one which is adequate for propositional statements. The authors do not believe that there are peculiar emotional needs or problems associated with cultural deprivation. Even if this were the case, the academic deficiencies of disadvantaged children are considered so important that if these are not remedied, no amount of praise or attention from the teacher will suffice to give them self-confidence or a satisfactory self-image.

(b) General Goals of the Program

The Bereiter-Engelmann program is characterized by extremely heavy emphasis on learning. In fact, the program really has little other purpose than the careful preparation of the child in academic areas. The program developers are explicit in their insistence that the primary goal of the preschool teacher of disadvantaged children should be to bring these children to a competitive level with middle-class children when they enter school. They are also explicit regarding the necessity, if this is to be accomplished, of eliminating or underemphasizing a number of other important goals which might be a part of a preschool program. For example, they state that the child may come out of their program still disadvantaged in a number of ways, such as not having as large a vocabulary as the middle-class child or not knowing as much about the world. But the strong argument is made that they need not acquire these things in order to succeed in school and that selectivity is essential if acceleration is to take place. This program also emphasizes that gains in other areas such as increased self-confidence, satisfaction with self, etc., will occur as by-products of confidence in the academic areas. Much of this emphasis is based on the assumption of a limited time, in fact a two-to-four-hour preschool day. The authors do not seem to be against enrichment as such, if there is enough time for this and academic training too.

(c) Temporal Focus

Not only are the goals of the program limited to selected areas, but the focus is preparatory; that is, the aim of this preschool program is to prepare the children to enter the first grade in a position to hold their own with middle-class children who have had many advantages which they have not had.

The argument is made that if this is not done, nothing else that can be done for these children will be of very great importance. Teachers are instructed to set intermediate goals daily, and to make every effort to assure that all children are making progress with respect to these goals.

(d) Predicted Development

-1- Cognitive

Program developers clearly expect increases in global IQ if the program is properly implemented. This is reasonable since much effort is devoted to learning in areas which are tapped by the Stanford-Binet, for example. In addition, however, children should specifically improve in their ability to handle numerical concepts and in their use of language. Children in this program should make progress towards learning to read, learning to add and subtract, as well as count. They should be able to speak in complete sentences and have a clear understanding of much of the basic structure of language. For example, they should understand the meaning of negation, plurality, logical inclusion and exclusion, prepositional qualification, etc. The extent to which these gains are made in one year is a function of the age of the group and the amount of time available.

-2- Motivational

The Bereiter-Engelmann program strives to produce a high motivation to achieve in academic areas. The desire to "get it right", "do a good job", "be smart", should increase significantly if this program is successful.

-3- Social

The social gains expected in this program are primarily those having to do with conformity to a school-type situation. Children should learn to sit still, follow directions, listen carefully, concentrate, etc. They would not necessarily be expected to interact in more mature ways with each other, but the program developers report that in prototype classes children did, in fact, learn "to cooperate, to respect each other's property and feelings, and generally to enjoy one another's company". (Bereiter-Engelmann, 1966).

(e) Curriculum Content and Organization

The curriculum in the Bereiter-Engelmann program is organized into three areas, reading, language, and arithmetic. (1) The reading program is essentially phonetic. Children learn to recognize and pronounce consonants, vowels, and blends. The short and long vowels are identified with appropriate marks. They then learn to combine these sounds, pronouncing them together to form "words", some of which are meaningful, some are not. For example, children might learn to pronounce the short a, the t, and a number of initial consonants such as the hard g, s, and r. They would then read "gat", "sat", "rat". Not all sounds or letters are taught initially; thus, depending upon the stage of the reading program which a given child has reached, he might or might not know all of his letters. (2) The language program is oriented toward the structural and logical components of language, emphasizing for example, recognition of negation, careful listening for compounds and plurals, and in general the meaning of words and phrases. Much emphasis is placed not just on speaking in complete sentences, but in being able to rearrange words and use them as the basic unit. (3) The arithmetic program begins with counting, and proceeds through the meaning of identity (=), and simple equations involving addition and subtraction. All of these programs are characterized by careful programming, frequent review, and much drill. Each step must be thoroughly mastered before the group is allowed to proceed to the next step.

(f) Methods and Techniques

-1- Locus of Control

There is no question that in this program the teacher is in control of task selection. It is the teacher's function to decide what the children will do and when. She should pace the program in such a way that children in all groups will experience success in what they are doing, but at the same time will be challenged by new tasks. (Cf. Montessori). There is no suggestion that the child can make his own selection or influence the curriculum by his interests. What he is ready for is determined by his responses, which should be observed and evaluated by the teacher. Not only does the teacher control the selection of tasks, but also the pace at which these tasks are attempted. So far as the academic portion of the program is concerned then, there is no possibility for selection or choice on the part of the children. It should be pointed out, however, that any given child receives only twenty minutes of each of the three program areas per day, making a total of one hour during which his time is completely preempted.

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During other portions of the day he may be allowed to select from among a limited number of activities those which he would like to participate in. It is not assumed in this program that preschool children are necessarily motivated to learn, but rather that they must first learn to work and to experience success, that this success will then produce a motivation to work hard again and thus eventually build up an overall desire to master difficult tasks and to do a competent job. If children are allowed unlimited choice of activities in a rich environment, they will flit from one thing to another, leaving an item as soon as its sensory qualities become familiar.

-2- Sequencing and Task Analysis

Task analysis and sequencing are the very core of the Bereiter-Engelmann program. Each of the three academic areas is organized in such a way that there is no uncertainty on the part of the teacher as to what lesson should follow. She uses a workbook which provides instructions that are to be followed verbatim and her task is simply to carry out the instructions and make the decision as to when to move on to the next step.

-3- Language

Virtually the entire Bereiter-Engelmann program can be said to be a linguistic program. Arithmetic, which is in itself symbolic, is accompanied by much verbalization, and of course language and reading are two aspects of the linguistic program. It is not the intention of this program to provide preschool children with a great deal of information, but to help them acquire the tools which they will need in order to educate themselves. These tools are essentially the uses of language. Therefore, the program should contain a maximum amount of verbalization by both teachers and children.

-4- Feedback

On this point, the Bereiter-Engelmann program is very specific and definite--in sharp disagreement with both Montessori and the Traditional program. It is essential, in the Bereiter-Engelmann program, to provide the child with immediate and very specific information regarding the correctness of his response. An example may help to clarify the degree of specificity intended. A child who was instructed to put the yellow pencil on the book, and who put a green pencil on the book, might be responded to by a Traditional teacher in this way. "That's fine, now put the yellow pencil on the book". Bereiter and Engelmann would have the teacher say, "No, that isn't right, you put the green pencil on the book. I want you to put the yellow pencil on the book". They maintain that it is important for the child not only to understand that there was something wrong, but exactly what it was that he did wrong. Otherwise, they say, he may not pay attention to anything except the fact that the teacher said, "That's fine". As already explained, positive reinforcement is used continually, but it is used in a contingent manner, not in an attempt to make the child feel good, but in an effort to reinforce precisely those responses which are desired. Thus, both positive and negative reinforcement are used in a very specific manner. Enthusiastic praise is reserved for occasions on which the child does perform correctly on what was for him a difficult task. The use of raisins or other material rewards (generally called primary reinforcement) is one of the aspects of this program which is most criticized. The reason for beginning with primary reinforcement with disadvantaged children is simply that in many cases these children have not learned to value praise. They have not experienced verbal reinforcement from an adult for the kinds of behavior that are expected from them in the preschool. If this is the case, it would be necessary to begin with whatever is reinforcing to the child. It is essential, however, that this stage be only the beginning. The teacher must always accompany the giving of tangible reinforcement with verbal praise, a handshake or pat and should move from this procedure to that of simply using verbal praise or handshake or a pat alone. It is expected that eventually the child will be sufficiently reinforced by success so that he will be able to dispense with even the verbal praise most of the time. This is essentially a shaping procedure which culminates in self-praise--in other words, pride in one's own accomplishment.

-5- Sensory Stimulation

Pure stimulation of the senses plays virtually no role in the Bereiter-Engelmann program. Although the authors recognize that severe sensory deprivation can be damaging especially in the first few months of life, they maintain that most disadvantaged children receive as much sensory stimulation as is necessary, and that in fact too much in the way of interesting objects and games will only serve to overstimulate them and distract their attention from the basic task.

They state, "an object-rich environment stimulates a culturally deprived child to attend to a glitter of superabundant stimuli"...Sterilizing the environment is a firm requirement of the work-oriented preschool...Toys should be limited to form boards, jigsaw puzzles, books, drawing and tracing materials, cuisinaire rods, and a miniature house, barn, or set of farm animals. Paper, crayons, and chalk, but no paint should be available for the expressive play. Motor toys, such as tricycles, wagons, and climbing equipment are not necessary for the program". Interestingly, these authors also stress one of Montessori's notions. They say, "a good toy does not teach a little bit of everything. If it is good, it is a good vehicle for one concept. It should be presented in such a way that the child learns this concept".

-6- Practice

Repetition and the formation of response habits are greatly stressed in the Bereiter-Engelmann program. Unison responses, sometimes accompanied by clapping to accentuate the rhythm, are very much utilized. One purpose of this rhythmic response pattern is that it enables the teacher to determine whether individual children are responding correctly. A more important function, however, is that it serves to accentuate certain important but easily overlooked words, and to separate the words in a sentence so that they can be recognized individually, thus counteracting what is called the "great word syndrome". The great word syndrome is the habit of using phrases which are combinations of portions of words, such as "dabidaw" for "that's a big dog". The authors maintain that this sort of chunking of units larger than single words is characteristic of the disadvantaged child, and makes it difficult for him to understand the word as a basic unit. One evidence for this, they point out, is the frequent inability of these children to reverse the order of words even in a very short sentence.

-7- Competition

Here, Bereiter and Engelmann diverge sharply from Montessori and also from the Traditional program. Friendly competition and calling of attention to successful performance by others is a common technique in this program. "Let's see who can get it right first", and "Let's see if we can all do it as well as Jimmy did", are typical of techniques used by these teachers. There is also competition with the teacher, carefully structured by her so that the children frequently win.

-8- Manipulation

Manipulation of concrete materials does not play any significant role in the Bereiter-Engelmann program--not because the developers consider it unimportant, but because they are convinced that opportunities for manipulation are plentiful outside the preschool.

-9- Grouping

In the Bereiter-Engelmann program, children should be grouped roughly according to their ability. Ideally there would be 15 children in a class, grouped approximately 5 in each of three groups, and there would be 3 teachers for this group of children. One would be teaching arithmetic, one reading, and one language. Grouping should be flexible, and children shifted on the basis of their performance as well as other considerations, such as motivation. A child who could keep up with the top group, but who performs better when he is the "star" might be shifted to the middle group for this reason. Children are always taught the academic program in these small groups. There is frequent attention devoted to individual children throughout the period of group instruction. Children are called on individually and at times some additional instruction is given. This must be kept to a minimum, however, in order not to lose the attention of the other children. Especially slow learners may be given individual instruction at other times. At times when the children are not engaged in patterned drill in any of the three academic areas, it is not necessary for them to remain in a particular group. They may work individually or the remainder of the groups may be combined. However, the fact that there is nearly always some group being given patterned drill tends to perpetuate the grouping throughout the school day.

-10- Imitation

Imitation of the teacher is a very important technique in the Bereiter-Engelmann program. In fact, this is primarily what children are doing in the small groups when they are being taught the three programs. Imitation, as used in this program is closer to the meaning of matched-dependent behavior as defined by Miller and Dollard (1941) than to the Freudian notion of identification.

(g) Classroom Atmosphere and Teacher-Child Relations

The ideal preschool for disadvantaged children is described by Bereiter-Engelmann as "generally run in a business-like, task-oriented manner". The school, they say, "resembles more nearly a high school than an elementary school", and is "certainly in striking contrast to the mother and her brood atmosphere of many nursery schools". (Bereiter-Engelmann, 1966). But the fact that the classroom atmosphere is business-like need not mean that it should be grim or depressing, and certainly children should not be apathetic. If ability grouping is adequate, and if the programs are presented properly, the children can, and should, enjoy them. During the drills, however, there is no permissiveness for inattention nor are children permitted to leave the sessions. If the children seem too tired at the end of twenty minute sessions, it is suggested that the teacher reduce the time to fifteen minutes initially.

Although the Bereiter-Engelmann program is organized very heavily around the use of positive reinforcement, the authors do not hesitate to recommend firm disciplinary procedures including physical punishment if necessary. They advocate this only in cases in which it is clear that verbal instructions have been largely ignored, and that the child is testing the teacher to determine whether or not she really means what she says. They also advocate isolation, if necessary, and point out that if this is to be effective it must be an uncomfortable situation, that is, in a room which is small, unattractive, and isolated from the rest of the class. In general, however, the children are generously and frequently rewarded not only for being correct, but also for trying, for working hard, and for other kinds of desirable behavior. The children should be lively, enthusiastic, and interested in their work.

SUMMARY

The Bereiter-Engelmann program is essentially a skill-training program which emphasizes the acquisition of the tools of academic progress--that is, the ability to handle linguistic and numerical symbols. The techniques emphasized are those which come from the learning laboratory. They include repetition of response patterns, matched-dependent behavior, and the use of extrinsic reinforcement. Sensory stimulation and manipulation are de-emphasized. Children are taught in groups, tasks are carefully sequenced, and the teacher is the active agent in determining the content of the program.

2. "DARCEE"

(a) Characteristics of the Target Population

In DARCEE, as in the Bereiter-Engelmann program, the emphasis is not so much on the nature of the child as on the nature of the program which is to be given him.

The DARCEE program recognizes the same kinds of deficiencies in disadvantaged children which most program developers have identified--deficiencies in attitudes and in aptitudes. Specifically, the disadvantaged child is characterized by lack of interest in academic matters, and an undisciplined approach toward achievement. He is linguistically deficient.

(b) General Goals of the Program

Two major goals characterize the DARCEE program. (1) Remediation of linguistic and conceptual deficiencies and (2) development of a number of attitudes which are related to academic achievement. It could hardly be said that either of these has priority over the other since they are seen as parts of the same problem and it is as necessary to build in appropriate attitudes as it is to attempt to teach concepts.

(c) Temporal Focus

Although it would be appropriate for middle-class children, the DARCEE program is in many respects remedial, and in this sense the focus is on reaching intermediate goals. Teachers set specific standards and work towards bringing all children to a given level as soon as possible. On the other hand, the heavy emphasis on working with parents in an attempt to extend curriculum goals in the home suggests that effects of this program should also be long-term, and that some of them will perhaps be more easily measured distally rather than proximally at the end of the school year.

(d) Predicted Development

-1- Cognitive

Since there is a very heavy emphasis on linguistic skills, it might be reasonable to expect IQ gains from this program. Gains may also be expected in quality of expressive language, classification, and information about the world. Visual and auditory discrimination should improve as well as ability to handle concepts such as number, time, and space.

-2- Motivational

In this area, gains would be expected in ability to delay immediate gratification in favor of later reward, persistence in solving tasks, and need for achievement.

-3- Social

Here, as in the Bereiter-Engelmann program, progress would be expected with respect to behavior appropriate to the school situation--for example, sitting still, paying attention, following directions, using verbal rather than physical persuasion, having respect for persons and property, etc. It is not entirely clear from source materials available whether one should be able to measure gains in ability to interact constructively with other children in cooperative play.

(e) Curriculum Content and Organization

The skill development portion of the DARCEE curriculum is organized around three processes: (1) Input, (2) Association processes and (3) Output.

(1) Input

This aspect of the curriculum has been designed to "help children perceive, decode, and encode stimuli which they receive through all the sensory channels"...(Cupp,1967).

(2) Association Processes

"The skills of association, classification, and sequencing are critical in the assimilation of experiences into some logical and orderly framework to facilitate quick retrieval of information and to foster transfer of learning. Here...the curriculum is organized to develop increasingly more sophisticated schemata for organizing information"... (Cupp, 1967).

(3) Output

..."Output is comprised of skills necessary for effective verbal communication and expression of thought patterns". (Cupp, 1967).

Within these groups, each particular skill is organized according to two dimensions: (1) along a vertical continuum from a gross elementary level of discrimination to a more specific and complex level, and (2) horizontally along a continuum from concrete to abstract.

With respect to content, the curriculum is organized around units. The first unit, for example, is about the child. Then comes a unit about pets, one about seasons, etc.

(f) Methods and Techniques

-1- Locus of Control

In the DARCEE program, the teacher is a very active agent in the learning process, in contrast to the Traditional and Montessori programs. Her role is comparable to the teacher's role in the Bereiter-Engelmann program. The teacher determines what activities take place and when, and she directs these activities in the way she believes will provide the greatest amount of learning. A quote from one of the many papers with which teachers are provided may make this very clear: "This is a school where children learn. Everything that happens in the classroom should help them learn. Classroom organization includes teachers, children, furnishings, and materials in the classroom... Each activity is planned to help children learn. Certain skills and attitudes are selected as the main purposes for a lesson". Children in the DARCEE program are sometimes allowed to play, and given some choice, but even their free play activities are directed toward learning something. The DARCEE program clearly recognizes that motivation to learn is not necessarily present in preschool children, and that this motive, as well as skills, must also be learned.

-2- Sequencing and Task Analysis

One of the most important principles in the DARCEE program is that of sequencing. For example, in the area of auditory discrimination, "polar concepts of volume and pitch are introduced for gross sound identification--loud-soft, high-low. These general concepts are refined as the comparative, (louder-softer, higher-lower) and superlative, (loudest-softest, highest-lowest) distinctions are introduced. Eventually, sounds with these descriptions are identified according to their sources. Decoding of verbal sounds is stressed continually...the child learns to decode simple directions, given verbally by the teacher. The complexity of directions is gradually increased by demanding more precise responses and by multiplying the number of directions in a specified sequential order...(Later) whole-word discrimination is introduced" and eventually words are made more and more similar until only initial consonants differ. "When one-letter sound distinctions can be discriminated, the child is ready for work in sound-letter association, in direct preparation for reading". (Cupp, 1967).

-3- Language

Language occupies a more prominent place in the DARCEE program than in any other with the exception of Bereiter-Engelmann. The difference between these two perhaps lies less in degree of emphasis on language than in the methods used to promote its development. In addition to formal instruction with linguistic materials, conversation between children and teacher, and among children, is encouraged, particularly during small-group times and at snack and meal times. This is a primary technique in developing expressive skills and utilization of information.

-4- Feedback

The DARCEE program, again like Bereiter-Engelmann, places heavy emphasis on the importance of contingent reinforcement. Less emphasis is placed on correction of errors and more on positive reinforcement for correct behavior, but it is clear that in either case the child should get immediate feedback regarding his responses.

-5- Sensory Stimulation

Stimulation of the senses per se is not emphasized in the DARCEE program. The materials, however, do provide a much wider range of stimuli with which the children interact than is the case in Bereiter-Engelmann. The basic five--beads, parquetry blocks, puzzles, peg boards, and counting cubes--are all concrete objects which offer opportunities for stimulation in various modalities, as well as manipulation. In addition, sensory discrimination, in all modalities, is a formal part of the program.

-6- Practice

The role of response habits is not greatly stressed in the DARCEE program, but as is the case with Montessori, the use of the same materials in a variety of ways insures a certain amount of repetition. In addition, the sequencing of the program within units assures practice until a certain level is mastered.

-7- Competition

Competition is not stressed, but neither is it forbidden. Teachers utilize it indirectly in calling attention to appropriate behavior on the part of individual children, and giving lavish praise to these children in a way which suggests that their behavior is to be imitated.

-8- Manipulation

Manipulation of concrete materials is a very prominent aspect of the DARCEE program. Teachers manipulate materials in creating designs which the children are then required to copy. Children spend a great deal of time, of course, manipulating beads, blocks, picture cards, etc.

-9- Grouping

In the DARCEE program, children are grouped according to initial level of performance. As in Bereiter-Engelmann, there should be three adults, one for each group of about five children. Throughout the day the children work in groups, all members of a group doing the same thing.

-10- Imitation

Matched-dependent behavior is also a very important part of the DARCEE program. Teachers frequently make towers, designs, etc., which the children are to copy. The DARCEE program does not depend on an identification process to develop achievement motivation, persistence and other attitudes, but rather these are directly reinforced.

(g) Classroom Atmosphere andTeacher-Child Relations

Teachers are advised that the classroom should be both quiet and orderly. Children are required to sit straight in their chairs, and they leave their chairs only when told to do so. Speaking in loud voices is not permitted. Children line up whenever they are moving from one room to another. In this respect, the DARCEE program is more like the Montessori program than any other. The teacher's relationship to the child should be warm, but firm. The teacher's main role is teaching, not providing emotional support or being a substitute mother.

Children are managed in the DARCEE program almost entirely by a positive reinforcement. Teachers call attention to appropriate behavior as it is exhibited, and much stress is laid on being specific and giving reinforcement of the kind of behavior desired. Physical punishment is not used.

SUMMARY

The DARCEE program emphasizes development of skills, but in addition incorporates explicit attempts to develop attitudes related to learning. Children are taught in groups, tasks are carefully analyzed and sequenced. Techniques considered important in this program also derive from the learning laboratory. They include extrinsic reinforcement, manipulation of materials, practice, and a very heavy emphasis on language and on imitation in the matched-dependent sense. In this program, the teacher is the active agent in content selection.

3. "Montessori"

(a) Characteristics of the Target Population

Montessori saw the young child as bursting with curiosity and an innate eagerness to learn. She stressed the individuality of each child, with his peculiar combination of capacities, fund of information, and methods of learning. She believed that preschoolers naturally take much pride in achieving. She saw the preschool years as a time when tremendous strides in intellectual development are possible, if the child's uniqueness is respected. She also believed the preschool child to be capable of intense and lengthy concentration, and felt that language is not his best aid in learning.

Montessori put great emphasis on the lack of order and structure in the environment of the disadvantaged child as compared with his middle-class peers. She called attention to the disorganization present in the stimulus environment of the slum children with whom she worked, and related this to handicaps in respect to conceptualization and learning skills. She regarded intellect not as a constant to be determined, but as a function to be developed.

(b) General Goals of the Program

The goals of a Montessori preschool program fall into four general categories: (1) Development of the senses, ability to discriminate, identify, and match, (2) Conceptual development, including mathematical concepts, size, weight, volume, etc., (3) Competence in daily activities of the kind involving housekeeping and personal care, and (4) what might be called character development--the development of independence, self-discipline, persistence, and love of learning. In all of these areas, the key words are order and system in learning.

(c) Temporal Focus

Montessori, like Traditional, is a program which focuses on the long-term developmental processes. The Montessori program is intended to be an educational philosophy extending from preschool through the twelfth grade. Individual children may be advanced in some areas and retarded in others; thus, it is not possible to set standards at an intermediate level which would be expected of all children.

(d) Predicted Development

-1- Cognitive

Like the Traditional program, the Montessori program sets no specific goals for children to reach at the end of a given period of time. The emphasis on cognitive development, however, is much more obvious in the Montessori program and can easily be derived from examination of the materials used. Academic materials, for example, are clearly designed to teach concepts such as weight, length, volume, number, letters, etc. Whether or not a given child has mastered any part of these concepts depends entirely upon his motivation, and whether or not he reached an appropriate level to be given the material. It is doubtful whether a measure of IQ gain is an appropriate method of assessing progress in a Montessori class at the end of one year.

-2- Motivational

This is one area in which it should be possible to assess the success of a Montessori classroom. Heavy stress is laid on the child's developing independence, persistence, and a task-oriented attitude. Children in a Montessori class, regardless of what they have learned in the way of content, should have made gains with repsect to ability to concentrate, and habits of persistence in solving tasks.

-3- Social

It is not entirely clear what should be expected in the way of social skills from children in Montessori classrooms. Increased self-control and respect for materials and for the rights of others could certainly be predicted. These should make for smoother peer relationships. However, since there is little emphasis on group activities, one might not expect much change in role-playing or skill in integrative play.

(e) Curriculum Content and Organization

Montessori is characterized by the organization of curriculum content into three large categories: Exercises for daily living, sensorial materials, and academic materials. These same three areas can be readily extracted from the content of Traditional curriculum. Normally, exercises for daily living would form the beginning of the Montessori program, and would be essentially the curriculum offered to three-year-olds, but four-year-olds without previous preschool begin here too, and the extent to which they progress to sensorial and academic materials is the function of each child's capacity to work through the program.

(f) Methods and Techniques

-1- Locus of Control

In Montessori, the child himself decides what he will study. In fact, Montessori teachers should be even less obtrusive in the learning process than the teacher in the Traditional classroom. The teacher is admonished not to try to teach, but simply to provide an environment in which the child can learn. The childrens' motivations and interests determine their choices of materials. Motivation is extremely important. It is assumed to be intrinsic, and related to the nature of the task and its suitability for the learner.

The teacher, however, is not passive. She should keep careful records on all individual children, since it is her task to introduce new materials at the appropriate time. The appropriateness of the time is determined by the child's progress up to that point. This is what Hunt calls the problem of the match. (1961). The child, however, is the active person in the learning process, and there is great emphasis on flexibility and motivation. The key term here is self-education. The learning process is seen as one that comes from within and the teacher, therefore, must remain unobtrusive.

-2- Sequencing and Task Analysis

With respect to sequencing of tasks, Montessori much more resembles the Bereiter-Engelmann program than it does the Traditional program. It might be said that both Montessori and Bereiter-Engelmann styles involve "programmed" activity, but with one important difference. In Montessori, the program is not imposed on the child or even suggested to him, but is simply inherent in the nature of the materials and the ways in which they can be used. Sequencing is extremely important in the Montessori method and even the exercises for daily living are carefully programmed in small steps.

-3- Language

As is true of the Traditional program, Montessori emphasizes the difficulties that language presents in the learning process for the very young child. Teachers are not to talk any more than is necessary. Their instructions or comments should be quite brief, and very simple. There is no provision in the Montessori program for remediation of linguistic deficits, though there is no proscription against the use of specific language materials where they seem to be called for. In general, this does not, or should not, increase the amount of linguistic interaction occurring otherwise in the classroom, which is minimal.

-4- Feedback

On the question of reinforcement, the Montessori program is quite different from the other three. The basic attitude derives from a belief in the spontaneous interest and joy which preschoolers take in learning, provided they are given an opportunity to attempt tasks which are suitable for their capacities; in other words, if a child is given material at the appropriate level, a level at which he can succeed with some effort, he will enjoy learning and it will not be necessary to provide extrinsic motivation to reward him for doing a good lesson. Montessori implied that children will be annoyed by superfluous extraneous reward for something which is its own reward--namely mastery of a task. If the task is too easy for him, he will be bored. If it is too difficult, he will be frustrated, but if it is just right, he will enjoy the challenge and take pleasure in success. Negative feedback is expressly forbidden. A child is never to be told that he is mistaken or wrong. He is simply to be reinstructed. In a Montessori classroom then, one should find less praise than in the other three. No material reinforcement is advocated of course.

-5- Sensory Stimulation.

This is a very important aspect of a Montessori program. The assumption is made that the development of the senses is vitally important in the intellectual development of the child. This focuses attention on the perceptual environment and on the materials to be presented to the child rather than on the child's response. This aspect of Montessori's program derives primarily from her knowledge of Itard's (1962) pedagodical methods in the education of the wild boy of Aveyron.

-6- Practice

It is difficult to define the role which practice plays in a Montessori program as it is in the Traditional program. Although there is no explicit attempt to make sure that a child continues to repeat activities, the fact that the materials can be used in a variety of ways, some more advanced than others, does insure a certain amount of repetition within each task. The situation is one that might be labelled "intellectual cafeteria feeding". The child is free to initiate an activity or not, and no pressure is put on him to do any particular thing. Once he does initiate an activity, however, there is strong encouragement to follow a standard procedure and thus "practice". It is probably fair to say that the emphasis is on sensory stimulation rather than on development of response habits, since the habits emphasized are more procedural than "correct response habits" in the Hullian sense.

-7- Competition

Competition has no place in the Montessori program, nor is a child ever compared with another child. Total emphasis on uniqueness, individuality, and a respect for the child's own interests is vital.

-8- Manipulation

Manipulation of materials is a very important technique in Montessori--both from the standpoint of providing sensory stimulation and as a primary method of learning specific concepts. For example, children feel shapes, trace sandpaper letters with their fingers, place cylinders in holes so that they fit exactly, identify objects by touch while blindfolded, etc.

-9- Grouping

With the exception of short periods of whole-group activity, there is no formal grouping in a Montessori classroom. In fact, informal grouping should occur infrequently since children are expected to work individually, and few of the materials are constructed for use by more than one person at a time.

-10- Imitation

Imitation in the sense of direct copying of the behavior of another (matched-dependent behavior) is very much a part of the Montessori program. Teachers show children in great detail each step in a task and expect the children to imitate exactly what they are doing. It is a major technique in skill learning, and is used in all activities from washing dishes to manipulating counting beads.

(g) Classroom Atmosphere and Teacher-Child Relations

The ideal Montessori class is much quieter and more orderly than the ideal Traditional class. There is little emphasis on the emotional relationship between the teacher and the child. The teacher is not seen as a mother substitute, but rather as an aide and a resource to the child in the process of self-education. Her manner should be friendly, but somewhat detached, as the child is supposed to be developing independence and the ability to direct his own activities. In this respect, Montessori more resembles Bereiter-Engelmann than Traditional. Great emphasis is placed on respect for other people's right to continue their own pursuits, and the teacher does not interrupt children even to help them, unless help is requested or unless they are obviously in difficulties from which they cannot extricate themselves. The general atmosphere, then, is one of quiet and orderly individual effort. There is heavy emphasis on care of materials, orderly procedures such as putting away the materials when finished with them, and in general treating people and property with respect.

One of the strongest emphases in the Montessori philosophy is the development of self-discipline. There are a few unbreakable rules in this kind of preschool. The child may take only apparatus that is not in use. He may not interfere with any other child, and he should not use the materials except for the purpose for which they were intended. He may stop working with a piece of equipment at any time, but must return it to its proper place. Montessori has stated, "Our aim is to discipline for activity, for work, for good--not for immobility, not for passivity, not for obedience". (Montessori, 1964). Emphasis is not on "taking turns", but rather in pursuing one's own interests as long as these do not interfere with the rights of others. The few rules are very strictly enforced, but it is the teacher's task to help the child understand these, and physical punishment is not used. The child's dignity must be respected al all times.

SUMMARY

Montessori is the program which is characterized by a high degree of structure, combined with a very great flexibility. It is highly structured in respect to the careful analysis and sequencing of tasks, but flexible in the sense that it is individualized, and expects each child to pursue his own interests. The teacher's role in this program is to provide opportunities for interaction with materials which, for each child at a given time, are appropriate for his level of achievement, consistent with his interest, and not in excess of his capacity to succeed. The program emphasizes sensory stimulation, manipulation, and intrinsic motivation as techniques in learning. Language, competition, and reinforcement are de-emphasized.

4. "Traditional"

(a) Characteristics of the Target Population

The picture of the preschool child which emerges in this program is that of a tender, shy, yet eager organism, easily manipulated. The preschooler is seen as egocentric, but at the same time insecure. He is seen as needing large amounts of warmth, patience, tolerance, and affection. He is eager to please and curious about things which he can relate to his own experience. He is likely to be damaged emotionally by acceleration, pressure, or over-control. He is very practical and concrete, and his capacity to utilize language is minimal. He learns slowly. He has a natural drive and sense of wonder.

The disadvantaged child as seen by those in the Traditional program is in many respects not essentially different from any preschooler. He is only more so. For example, more shy, more in need of affection, less confident, etc. Some special characteristics of the culturally disadvantaged are: Lack of experience with the environment, lack of stimulation, lack of curiosity, lack of books and toys, poor physical condition, and poor language development.

(b) General Goals of the Program

The goals of the official Head Start preschool philosophy are very broad. They include cognitive, motivational, social, and physical development. This list, taken from Head Start Rainbow Book No. 4 suggests that the cognitive development is perhaps less stressed than are some of the other goals, but linguistic effectiveness is explicitly mentioned:

Learn to work and play independently
Become able to accept help and direction from adults
Learn to live effectively with other children
Develop self-identity
Grow in competence and worth
Sharpen and widen language skills, both listening and speaking
Be curious
Grow in ability to express inner, creative impulses
Grow in ability to channel inner, destructive impulses

(c) Temporal Focus

The Traditional program does not recommend intermediate, short term goals which are explicit and set by the teacher. The emphasis is rather on development in all areas and at each child's natural pace. This prevents setting any standard of achievement, or specific goals for all children. The temporal focus is long-term, and the program is not seen as preparatory, except in the broad sense of providing appropriate early experiences which form the foundation for further development. One source writer cautions against trying to make preschool a watered-down first grade. This is referred to as the "dribble-down disease".

(d) Predicted Development

-1- Cognitive

Although it is clear that the Traditional program does expect children to make gains in various aspects of intellectual development, it is not at all clear that these should necessarily be reflected in increases in overall IQ. Among specific goals listed are: Ability to think, understanding of the world, and improvement in language skills, both receptive and expressive. It is also stated that in general they should be able to "move along successfully" through kindergarten and first grade. Cognitive development, however, is only one of the goals of this program and not necessarily the most important one.

-2- Motivational

Children in the Traditional Program are expected to develop a greater curiosity about themselves and the world, and a more positive attitude toward following instructions and imitating the teacher. They should also develop a greater need for achievement and a sense of pride in their own accomplishments.

-3- Social

The Traditional program is intended to improve a child's self-confidence and self-discipline. The ability to express one's self and to interact successfully with one's peers and with adults should increase. The program should develop the children's verbal skills and help them to use these in their interactions with others to a greater extent than was originally the case.

(e) Curriculum Content and Organization

Broadly speaking, there is considerable similarity in the content of all preschool programs regardless of method. After all, no one tries to teach four-year-olds the names of all the presidents, though presumably this could be done. Consensus arises, of course, from the fact that there are so many basic things that four-year-olds do not know. The names of common objects, basic concepts such as time, foods, etc., words used in making sensory discriminations in various modalities, and many other things form a part of all curricula for preschool children. The curriculum in the Traditional program is distinguished not by any particular content, but rather by its flexibility. It may include anything which is of interest to the children at a particular time.

(f) Methods and Techniques

-1- Locus of Control

In the Traditional program, the children and not the teacher should be the deciding factor regarding what is learned. This does not mean, of course, that the teacher has no plan for the class, but it does mean that she does not have in mind a particular set of facts or any particular goals which take precedence over the motivation of the children. Rather than trying explicitly to teach something to the children, she should provide opportunities for learning and follow whatever direction seems most preferable at a given time. She does not insist that the children learn any particular thing, but watches for opportunities to expand their horizons.

Motivation is one of the most important variables in the Traditional program. Very heavy stress is laid on the fact that whatever a child learns when he is unmotivated (if indeed he learns anything at all) will be of little value. Great stress is laid on the concreteness of the preschool child, and the fact that whatever he learns must be related to him personally in some way. The teacher is urged to take advantage of all occurrences which have an intrinsic interest for the child since these provide opportunities for learning. Primary importance is placed on the enthusiasm and excitement which an event generates in a young child. The implication is that if he is sufficiently interested, he will learn.

-2- Sequencing and Task Analysis

Emphasis in the Traditional program is on the relatedness of information in all areas. With respect to sequencing, the following statement from Hymes (1968) should suffice, "No activity is so foundational that all others depend on it, nor is it crucial that certain facts or skills or concepts be mastered first. Begin wherever the liveliest action is. Only one thing really matters--a teacher must stay close to the cutting edge of childrens' enthusiasm. The teacher should not have a fixed idea of what the children should learn or at what particular time".

-3- Language

There is a peculiar ambiguity in the Traditional program regarding the use of language. On the one hand, the linguistic deficiencies of the disadvantaged are emphasized, and stress is placed on the necessity to help children to progress towards a more efficient use of language in both expression and listening. On the other hand, the limited capacity of preschool children to use language in learning is emphasized. Teachers are cautioned not to insist that the child speak more loudly or more distinctly, because this may destroy his self-confidence and inhibit him. They are also advised not to do too much talking. It is not clear, however, how the teacher is to improve the child's linguistic skills, especially the expressive skills if she is not to do explicit teaching. Rainbow Book No. 4 states "a child learns to talk effectively by being listened to--and then responded to--by a person he cares about". It would probably be accurate to say that the child's listening skills should be enhanced through the whole-group activities such as listening to records or listening to the teacher tell a story, and that his expressive skills should improve as a result of conversation with the adults in the classroom and perhaps with the other children during the course of his play activities.

-4- Feedback

In the Traditional program, teachers are advised to give children much praise. They are not, however, advised to point out explicitly his errors. In fact, teachers are specifically cautioned against emphasis on right and wrong and against specific commands. This is one of the most crucial and most controversial aspects of these four programs. The basic question is whether it is more important to give the preschool child specific and definite information regarding his errors or to praise him indiscriminately in order to build up his confidence. The Traditional program emphasizes praise regardless of whether the child's performance is adequate according to some standard, though obviously in behavior management there is some contingency, since the teacher does not praise undesirable behavior. No suggestion could be found that the teacher should provide external reinforcement in the form of material rewards either for particular activities or for increased interest in, or attitudes toward, learning.

-5- Sensory Stimulation

This is one of the strong emphases in the Traditional program. The child should have an opportunity to see, hear, taste, and manipulate many different things. It is said(Hymes) that the child learns best through concrete events which have a meaning for him personally. Appropriate techniques in the classroom include concrete items, field trips, visitors, pictures, fragrant items, movies and TV. An object-rich environment is provided, with many different kinds of toys.

-6- Practice

The role of practice in learning is virtually unmentioned in any source material on the Traditional program. Repetition, but of sensory items, is mentioned briefly in Hymes who says that young children learn slowly and need things repeated numerous times. Practice does occur, of course. It comes about as a result of repetition of activities in which children participate, but there is no stress on an explicit attempt to have the child repeat or practice any particular skill.

-7- Competition

In the Traditional program, children are not compared with one another and the use of competition is specifically proscribed.

-8- Manipulation

It is difficult to specify the role which manipulation of materials plays in the Traditional program. The environment and wealth of materials provided certainly promote physical interaction and handling. On the other hand, there is no explicit attempt to insure that children use the materials nor is there any particular way in which a given item must be manipulated. Regarding the kinds of toys, the Rainbow Book No. 4 states, "toys should be abstract; that is, they should look not too literally like any specific object".

-9- Grouping

In the Traditional classroom, the children are not grouped arbitrarily with the exception that there is a period during the day when all children are brought together for some whole-group activity such as singing or a story. Even at this time, however, no child is forced to participate. Otherwise children are free to play alone or form their own groups and move from one group to another freely as they choose.

-10- Imitation

The role of imitation which can be extracted from sources relevant to the Traditional program is not matched-dependent behavior,as described by Miller and Dollard,(1941) but rather closer to the Freudian notion of identification. Jerome Kagan points out (1967) that Freud described identification as "the endeavor to mold a person's own ego after the fashion of one that has been taken as a model". Kagan suggests that two major goal states are involved in identification behavior: (a) mastery of the environment and (b) love and affection. This notion of identification seems to be very much a part of the Traditional program. The teacher in this program should become a much-loved model of appropriate behavior. It seems to be much more relevant to the development of values and attitudes than to the learning of skills. Some writers caution teachers against making models for the children to copy.

(g) Classroom Atmosphere and Teacher-Child Relations

The atmosphere in a Traditional classroom should be one of happy freedom within limits. Children should not be required to sit still for long periods, nor should they be regimented. They should feel free to pursue their own interests most of the time and should not be forced to engage in activities which do not interest them. The classroom should not necessarily be quiet, but neither should it be wild, shrieking bedlam. In general, the teacher should be warm, supportive, non-critical, and as non-demanding as possible and still maintain order. The classroom should be conducted at a leisurely pace. Particular stress is placed on the emotional needs of these children, and the necessity for the teacher to be warm, patient, affectionate, and tolerant.

In the Traditional classroom, children should not be physically punished, but should be corrected gently using positive rather than negative statements. In the case of completely unruly behavior, the teacher may temporarily isolate the child from the rest of the group, but always with an adult present. Undesirable behavior may be ignored or the teacher may use diversion or redirection. She should always disapprove of the act, and not of the child. In the Traditional program emphasis is placed on understanding and reaching the child, not on manipulating his behavior. Children should be praised a lot, smiled at a lot, their names should be used, and in general they should be treated with respect for their individuality. They should never be shamed or ridiculed, nor should they be forced to display good manners. The teacher should be polite to the children, making requests rather than demands. There must be a climate of freedom, with choices available to the child as insurance against over-controlling and over-manipulating.

SUMMARY

The Traditional preschool as exemplified in the training program at North Carolina stresses emphasis on the child, elimination of proximal goals, lack of sequencing in learning, emphasis on learning through events and through concrete manipulation, de-emphasis on language, and a stressing of a wide range of choices for the child. Great stress is placed on individual differences and on dealing with each child individually.

No specific theory of learning appears to guide the procedures recommended in the Traditional preschool. Two techniques are primary: (1) Imitation in a sense that is closer to the Freudian concept of identification than to Miller and Dollard's concept of matched-dependent behavior; that is, children are said to identify with, and learn to behave like, those adults whom they love. If the children learn to love the teacher and she provides a good model of behavior, they should begin to behave or want to behave as she does. (2) The second technique is that of learning through play. The so-called free-play period, sometimes called work-play period occupies the largest single portion of the school day in a Traditional preschool. This is a time during which children are allowed to engage in whatever activities they choose, and appears to be a time when they are simply playing, but the philosophy of the Traditional preschool is that at this age children do learn best through play. They are assumed to be planning, investigating, organizing ideas, and developing skills. It is not clear whether the kind of play in which the child engages has any necessary relationship to what he learns, although it is known, of course, that materials can affect patterns of behavior, e.g., certain materials (Van Alstyne, 1932) and certain activities (Janus, 1943) are related to more verbalization. At any rate, the material and physical arrangements in the Traditional preschool encourage various kinds of activities such as pretend games in the housekeeping corner, physical exercises on balance boards and jungle gyms, the manipulation of materials such as puzzles which develop eye-hand coordination and sensory discrimination, and curiosity at the science table. A parallel can be drawn between the emphasis in the Traditional program on the concreteness of young children, and Piaget's stage of preoperational thought. Beyond this, however, attempts to relate the Traditional program to any particular theory or model of learning would appear strained. It might be fair to say that this program emphasizes learning by doing.

B. Supporting Evidence for Descriptions

Since these descriptions of programs are derived from many sources, it is perhaps appropriate to question whether they are consistent with the attitudes of consultants for these programs. No direct evidence is available. However, there is some indirect evidence that the program descriptions are reasonably consistent with the views of the consultants for each of the programs. This evidence comes from a "Statements Test" devised in the following way: A number of statements regarding various dimensions of preschool programs were extracted from the sources listed above. These statements were then placed on 3 x 5 cards and presented to consultants, who were asked to rate them on a 5 point scale from strongly agree to strongly disagree. (Statements Test attached as App. 1). Percent agreement of consultants is greater with the statements taken from their own programs than with those taken from other sources, and disagreement scores are quite low.(Table 1). This does not, of course, mean that no statements were disagreed with, but it does indicate that these descriptions are probably not discrepant to any significant extent.

TABLE 1

CONSULTANTS' AGREEMENT WITH STATEMENTS FROM FOUR PRESCHOOL METHODS

("STATEMENTS TEST")

CONSULTANTS	PROGRAMS											
	Bereiter-Engelmann			DARCEE			Montessori			Traditional		
	Ag. %	Dis. %	A-D %	Ag. %	Dis. %	A-D %	Ag. %	Dis. %	A-D %	Ag. %	Dis. %	A-D %
Bereiter-Engelmann	81	9	72	77	13	64	46	46	0	17	74	57
DARCEE	52	21	31	92	0	92	50	27	23	17	63	46
Montessori	49	23	26	62	17	45	77	0	77	57	20	37
Traditional*	38	39	1	66	17	49	62	14	48	68	10	58

*Mean of two

II. IMPLEMENTING TREATMENTS

A. Recruitment of Teachers and Aides

1. Teachers

Teachers for three of the experimental programs were recruited from a pool of twenty-two of the previous year's Head Start teachers who indicated a willingness to attend special workshops during the summer. These twelve (4 for each of three programs) were selected cooperatively by the Coordinator for Head Start, Community Action Commission, the Director of Head Start for Louisville Public Schools, the Supervisor of Head Start for Louisville Public Schools, and the Project Director, University of Louisville.

Criteria used for selection were: (a) interest in programs, (b) previous academic training and other indications of potential for new learning, (c) balance of such criteria among the three programs and (d) likelihood of completion of the training program.

To obtain Montessori teachers, visits were made to Midwest Montessori Institute in Chicago, Xavier University in Cincinnati, and Fairleigh-Dickinson University in New Jersey. Two persons who were taking their training in an 8-week workshop at Fairleigh-Dickinson University were recruited. In addition, a certified Montessori teacher was obtained locally to supervise the two Montessori interns, who could not meet requirements of their internship without such supervision. Biographical information on teachers by programs is given in Table 2. This was obtained by means of two questionnaires. (App. II).

2. Aides

Aides in the experimental classes were neither recruited nor selected. Their assignment was dictated solely by the placement of classes in schools. This was necessary because of the Head Start requirement that aides be residents of the neighborhoods in which Head Start classes are located. Thus, though teachers could be shifted from one school to another as experimental design required, aides could not. Consequently, the placement of a particular class determined who would be the aide.

B. Training of Teachers and Aides

1. Teachers

(a) Pre-Service Training

Bereiter-Engelmann

Arrangements were made with the Colonel Wolfe Preschool at

TABLE 2

TEACHERS' BIOGRAPHICAL DATA

	Age 6/11/69	Educational Level		Teaching Experience (All levels)		
		No. Years College	Degree	None	1-5 yrs.	More than 5
Bereiter-Engelmann						
Teacher 1	54.0	4.00	yes			x
Teacher 2	32.0	1.00	no		x	
Teacher 3	52.0	4.00	no			x
Teacher 4	40.0	4.00	no		x	
	$\bar{X}$ = 45.5	$\bar{X}$ = 3.25	% = 25			
DARCEE						
Teacher 5	33.0	0.25	no		x	
Teacher 6	33.0	3.00	no		x	
Teacher 7	36.0	1.50	no		x	
Teacher 8	36.0	2.00	no		x	
	$\bar{X}$ = 34.5	$\bar{X}$ = 1.69	% = 0			
Montessori						
Teacher 9	26.0	4.00	yes		x	
Teacher 10	22.0	4.00	yes	x		
	$\bar{X}$ = 24.0	$\bar{X}$ = 4.00	% = 100			
Traditional						
Teacher 11	28.0	4.00	yes		x	
Teacher 12	33.0	2.00	no		x	
Teacher 13	42.0	2.00	no			x
Teacher 14	39.0	3.00	no		x	
	$\bar{X}$ = 35.5	$\bar{X}$ = 2.75	% = 25			

the University of Illinois for four teachers to attend a 4-week training program held there in the Bereiter-Engelmann method.

DARCEE

Four teachers were sent to George Peabody University to attend the regular 8-week Head Start training program for that region, a training program which is based on the DARCEE philosophy and methods. Arrangements were made through the National Head Start office.

Two other individuals (former Head Start Aides) were also sent to the same training program. These were the Home Visitors who were to work with parents of children in the DARCEE experimental program.

Montessori

The two Montessori teachers were already attending the 8-week Montessori training program at Fairleigh-Dickinson University.

Traditional

Arrangements were made through the national Head Start Office for four teachers to attend the 8-week training program at the University of North Carolina for training in the Traditional style. This training program is the one established for the region in which the research was conducted. It is quite orthodox in respect to the official Head Start philosophy as set forth in the "Rainbow Series" and other publications of the Office of Economic Opportunity.

(b) In-Service Training

One of the problems anticipated at the initiation of the research was that the programs might not continue to be different throughout the year. It was feared the teachers might revert to previous methods or lose their enthusiasm or for other reasons fail to continue to implement a given program. Four to eight weeks of training hardly seemed sufficient to provide teachers with enough information and methodology to implement a program successfully throughout the entire school year.

On the other hand, programs which cannot be successfully implemented without continual on-site supervision would seem to have very little practical value.

A compromise was decided upon. Teachers in all four programs were provided with two workshops during the school year.

Each of these consisted of two days. All were conducted by experts in the various programs. In some cases, there were two half-days of observation and two half-days of training, in other cases, differing proportions of observation and training or consultation. The format of such in-service workshops was left entirely to the consultants who conducted them, based on their estimates of the needs of the teachers. Montessori teachers returned to Fairleigh-Dickinson University for their workshop with the other interns in their class. They had in addition, of course, one day a week each of classroom supervision by, and consultation with, their local supervisor.

Teachers also met bi-weekly with the Project Director or some member of the research staff. This undoubtedly was a factor in morale, esprit de corps, and enthusiasm, but it is doubtful whether it was particularly helpful to them in terms of their programs since nobody on the research staff was expert in the details of any of the programs. These meetings did provide an opportunity for them to help and instruct each other. Discussions, however, frequently centered around particular children or problems with volunteers or parents.

2. Aides

(a) Pre-Service Training

Training of aides was conducted in pre-service workshops. Four of these were held, one for each program, at the University of Louisville by persons from the various universities who were involved in the training programs for teachers. The Montessori workshop for aides was conducted by the local supervisor. Two full days of intensive training were given in each program.

(b) In-Service Training

In-service training of aides was conducted informally by the teachers. No attempt was made to assess the extent of this training.

All training programs were visited by the Project Director,* sometimes accompanied by the Coordinator for Head Start from the Community Action Commission. Conferences were held with the program developers and others concerned with training, and observations were made of the actual training procedures. Conferences were also held with the teachers during these visits.

C. Random Assigment of Subjects

Arrangements were made with principals of the schools involved for the children to be randomly assigned to experimental or non-experimental classes as they registered for Head Start. Personal visits to the principals during the first week of classes indicated that random assignment had indeed been carried out. In fact, it was later learned that despite the statement on the registration form explaining this aspect of the experiment to parents, some of the parents in the Park-DuValle Area were unhappy about not being able to select among programs the one which they preferred for their child.

D. Experimental Replication

The design of the experiment (Table 3) called for replications of the comparisons among programs in each of four "target areas" of the city. Descriptions of these geographical areas indicate that they differ somewhat in population characteristics, making it important to balance sample characteristics and classroom facilities across programs. Decisions regarding location of classes were made jointly by the Coordinator for Head Start, the Director of Head Start, and the Project Director.

1. Balancing Sample Characteristics

(a) Placement of Classes

The four target areas of the city are designated California, Jackson, Park-DuValle, and Russell. The two largest areas, in terms of number of Head Start classes conducted, are the Park-DuValle and Russell Areas. In both of these, there were several schools at which two or more Head Start classes were anticipated. Since the experiment could be fully replicated in only two areas with the two Montessori teachers, and partially replicated with three programs in the other two, Park-DuValle and Russell were chosen for the complete replications.

In the Park-DuValle Area, all four programs were located in only two schools--the Bereiter-Engelmann and Montessori programs in one school and the Traditional and DARCEE programs in the other. In the Russell Area, the Montessori and the Bereiter-Engelmann programs were again located in the same place with DARCEE and Traditional in separate schools. In the California Area, the Bereiter-Engelmann and Traditional programs were in the same school, the DARCEE program in another. In the Jackson Area, all three programs were located in different schools. Thus 10 schools in all were used to house the 14 classes. Table 4 shows the placement of classes by areas and by schools.

TABLE 3

DESIGN OF EXPERIMENT: (REPLICATION IN TARGET AREAS)

PROGRAMS	TARGET AREAS			
	#1	#2	#3	#4
	Ss	Ss	Ss	Ss
Bereiter-Engelmann	1-12	13-24	25-36	37-48
DARCEE	49-60	61-72	73-84	85-96
Montessori	-	-	97-108	109-120
Traditional	121-132	133-144	145-156	157-168
Controls	169-180			

TABLE 4

PLACEMENT OF CLASSES BY PROGRAM AND AREA

	TARGET AREAS			
PROGRAM	#1 CALIFORNIA	#2 JACKSON	#3 PARK DuVALLE	#4 RUSSELL
Bereiter-Engelmann	School	School	School	Church
DARCEE	School	School	Portable-School	Church
Montessori	-	-	School	Church
Traditional	School	School	Portable-School	Portable

(b) Verification - Demographic Data

Two forms were constructed for the purpose of collecting information about the families and home environment of the children in this study.

-1- The first form (App. III) was presented to all registrants at schools where experimental classes were to be located. It served the purpose of informing the parents about the experimental classes and obtaining permission for assignment of children to these classes. Information obtained from this form provides a description of the population from which the experimental samples were drawn. All tables given herein are based on this form.

-2- The second form (App. IV) was requested only from parents of children in the experimental classes. This form was intended to obtain four categories of information: (1) more exact and detailed descriptions of parental occupations, (2) a clearer picture of the housing of the family, (3) information regarding the family's stability as residents, and (4) more detailed information about the facilities and general style of living. No analyses have been made of information from this second questionnaire.

Table 5 shows that balancing of demographic characteristics was probably successful, in that there are apparently no striking differences among programs. No analyses have been made.

Demographic information will also be used to asses interactions between sample characteristics and other variables as well as direct effects of sample characteristics across programs.

2. Balancing Facilities

Another major criterion for placement of classes was the need to balance the adequacy of facilities across programs. In some areas, schools were very crowded and Head Start classes were located in portables. In other locations, they were housed in churches, or in one case in a nearby parochial school. In the Russell area, for example, all four programs were located outside of school buildings; three in churches and one in a portable. None of these were really adequate. The three programs in the Jackson Area, however, were all housed within schools in satisfactory classrooms. In the Park-DuValle Area, the Bereiter-Engelmann and Montessori classes were well-housed in school classrooms. The DARCEE and Traditional programs were in modern portables for a few months, and in remodeled school classrooms for the remainder of the time. Table 4 shows the balancing of facilities in all four programs.

TABLE 5

DEMOGRAPHIC INFORMATION ON EXPERIMENTAL SAMPLES BY PROGRAMS

	PROGRAMS					
	Bereiter-Engelmann N=64	DARCEE N=64	Montessori N=33	Traditional N=53	Controls N=34	All Subjects N=248
Mean Age of Child (months)	50.37	51.10	52.31	49.46	51.73	50.48
Males	27	30	18	22	18	116
Females	37	34	15	31	16	132
Negro	62	56	32	48	25	223
White	2	8	0	5	9	24
Other	0	0	1	0	0	1
Median No. Siblings	2	3	3	2	3	2.5
Median No. in Home	5	6	5	6	6	5.5
Living with Mother only	35	30	23	29	12	129
Living with Father only	3	0	0	1	0	4
Living with both parents	21	28	9	22	21	101
Living with neither parent	5	6	1	1	1	14
Mean Income	$2915.52	$3158.62	$2806.67	$3186.00	$3862.07	$3185.76
Mean age of Mother	27.98	28.75	28.00	28.06	29.74	28.51
Mean age of Father	31.50	32.32	31.77	32.15	32.45	32.04
Median education of Mother	11	11	11	11	10	10.80
Median education of Father	11	10	9	10	10	10

3. Alternatives for Parents

Insofar as was possible placement was guided by the desirability of offering parents an alternative to any experimental class. Therefore, the one location in which there were two experimental classes and no non-experimental classes was utilized for the placement of one of the Traditional programs which, of course, is quite similar to the regular Head Start program. In all other locations, parents could select a non-experimental Head Start class if they were unwilling to send the child to the experimental class. There were no reports of any parents exercising this option.

E. Special Equipment for Programs

Classes were equipped not only with the normal Head Start materials, but with all special materials and equipment necessary for implementation of the various programs. In general, classrooms were furnished whatever items were suggested by consultants as being of value in the implementation of their particular program.

F. Data Supplied by Teachers

1. Attendance Records

Daily attendance records on each child were turned in bi-weekly by the teachers. The relationship between number of days attended and progress made in a given program is, of course, one of great interest. In addition, it is quite possible that there are a few children who remained enrolled throughout the year, but attended only sporadically. It may be that these few would need to be removed from the experimental group. Finally, it will be of interest to follow attendance records in later years since good patterns established in the preschool may be expected to carry over into elementary school, and there is some evidence that this is one of the long-term gains from Head Start. (McDavid,1969).

2. Parent Contacts

Parent participation has been an important aspect of Head Start since its inception. One important feature of the DARCEE program is the use of additional personnel, called Home Visitors, to insure maximum parental cooperation, and the extension of the curriculum and methods into the home in the relationship between the child and the mother. Of special interest in this research are: (1) the number and kind of parental contacts as a function ofprogram, and (2) the relation between amount and kind of parent contact, and the progress of the children. Teachers were provided with a form on which they kept careful records of all contacts with parents.

3. Visitors to Classes

Teachers were provided with Visitors Sign-In Forms on which they were instructed to record the kind of visitors and the length of their stay in the classroom.

G. A Sub-Study in the DARCEE Program

As a further check on the effects of parent participation, a sub-study was designed within the DARCEE program. Each of the two Home Visitors was assigned to two of these classes. Within each class, the Home Visitor worked with approximately half of the parents. The parents were chosen randomly, but some self-selection did occur because a few of those who were chosen to be involved either could not meet with the Home Visitor or would not cooperate. Most parents selected did receive the Home Visitor once a week. Within this program, progress of children whose parents participated will be compared with those whose parents did not.

III. VERIFYING TREATMENTS

The question, "Did the teachers really implement the program in which they were trained?" is a question of validity, and like most (if not all) such questions reduces to one of reliability. The question whether "X" is "really X" leads to a regress culminating in consensual agreement regarding protocol statements. The obvious method of answering this question in the present case was by means of an evaluation of programs and teachers by those who developed each program, or who were involved in the training of individuals in the various methods. For this purpose, a "Consultant's Evaluation Form" was devised(App. V) which called for ratings regarding a number of aspects of teacher behavior materials and curriculum. Consultants were asked to rate each class on all aspects of programs twice--once using an absolute criterion,(in comparison with the ideal program) and again using a relative criterion (meaning considering the limitations imposed on implementation by distant location and the absence of resources available to programs under strict control in their original setting). The purpose of using these two criteria was to insure greater consistency on the part of the raters by making them aware of the distinction and giving them all a similar baseline. We knew that the conditions under which our implementations would be made would preclude the possibility of their being prototypes of the original programs; our primary interest was in determining whether the classes as a group were reasonable approximations of the original programs, and how classes ranked within programs. Ratings based on the "Relative Criterion", therefore, are of primary interest.

A. Program Evaluation

Examination of Table 6 indicates that all programs received ratings above the mid-point in respect to being demonstrations of their respective styles. Consultants for the Bereiter-Engelmann program were least pleased with implementation. There may be

TABLE 6

CONSULTANTS' RATING OF PROGRAMS[1]

("Not at all" (0) to "Best possible" (10))

	PROGRAMS (Mean for all classes)			
	Bereiter-Engelmann	DARCEE	Montessori	Traditional
Program Aspect Evaluated				
Teaching Techniques	5.87	7.28	6.25	9.17
Materials	7.50	7.00	7.50	10.00
Principles	5.62	7.86	6.50	9.00
Context	5.50	7.71	7.00	8.50
Selection of Activities	5.00	7.86	7.25	8.83
Content	8.50	6.71	6.50	9.17
Facilities	7.87	8.29	5.00	3.67
Progress of Children	5.86	7.25	6.25	-
Classroom events typical	7.00	7.43	6.50	8.67
Extent to which a demonstration	5.37	7.71	6.25	10.00
Mean - All Categories	6.33	7.51	6.50	8.56

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[1] Considering limitations (Relative Criterion)

TABLE 7

EVALUATION OF INDIVIDUAL TEACHERS BY CONSULTANTS [1]

	Mean Rating on all Aspects Rated [2]				Mean of Two Consultants	
	Consultant A	Program Rank	Consultant B	Program Rank		Program Rank
Bereiter-Engelmann						
Teacher 1	6.62	(3)	8.50	(1.0)	7.56	(1)
Teacher 2	4.55	(4)	5.00	(4.0)	4.77	(4)
Teacher 3	7.11	(1.5)	6.90	(2.0)	7.00	(2)
Teacher 4	7.11	(1.5)	5.90	(3.0)	6.50	(3)
DARCEE						
Teacher 5	7.66	(2)	8.70	(2)	8.18	(2)
Teacher 6	-	-	4.80	(4)	-	-
Teacher 7	7.89	(1)	9.00	(1)	8.45	(1)
Teacher 8	7.44	(3)	7.20	(3)	7.32	(3)
Montessori						
Teacher 9	9.20	(1)	7.00	(1)	8.10	(1)
Teacher 10	5.40	(2)	4.40	(2)	4.90	(2)
Traditional						
Teacher 11	7.00	(3)	-	-	-	-
Teacher 12	9.00	(2)	9.00	(2)	9.00	(2)
Teacher 13	9.44	(1)	9.44	(1)	9.44	(1)
Teacher 14	6.75	(4)	-	-	-	-

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[1] Relative criterion

[2] Consultants occasionally omitted specific categories, or teachers not seen.

several reasons for this. For one thing, the training program which these teachers had was only four weeks long as compared with eight weeks in the other three programs. Secondly, there was some difficulty in obtaining on-site consultation on this program early in the year. Because of this a temporary confusion arose regarding the appropriate order of materials, and arithmetic programs, in particular, were not carried out in the proper way until late in the year. Finally, considering the highly specialized nature of the material and the close dependence of program implementation on these materials, this program may simply be the most difficult to implement without continual on-site supervision.

Consultants for the Traditional program were most pleased. It is noteworthy, however, that their rating of "Facilities" was quite low, despite our balancing across programs. This may reflect a greater emphasis on aesthetic values in the Traditional program, or it may simply indicate that these consultants place more importance on facilities than do the consultants for the other programs.

DARCEE and Montessori ratings were second and third highest, respectively. Montessori classes were expected to receive low ratings, partly because there were only two of them, but primarily because we felt that Montessori classes composed entirely of four-year-olds violated an important procedural standard--that is, the mixture of children of ages 3, 4, and 5.

B. Teacher Evaluation

1. Consultants' Evaluation

As shown in Table 7 there was considerable variability among teachers within programs, according to consultants' ratings. Agreement between consultants was highest in the Traditional program and lowest in the Bereiter-Engelmann program. In the latter case, disagreement appeared to be located primarily in the ratings given to Teacher 1. An examination of these two consultants' ratings in various categories over teachers, however, revealed that there was considerable discrepancy in all categories for all teachers.

The work of the Home Visitors in the DARCEE program was evaluated by two consultants who filled this role during the development of the original DARCEE program, and who directed the relevant portions of the training program for the Home Visitors. These consultants were enthusiastic regarding the implementation of this aspect of the DARCEE program.

2. "Statements Test"

The "Statements Test" which was taken by the consultants was also given to teachers. This provides some estimate of the extent to which teachers agree with consultants regarding various aspects of programs. Table 8 shows agreement scores of teachers by programs. As might be expected, there was considerable variation among teachers, and mean agreement scores for their own programs are much lower than are those of the consultants. In some cases teachers had higher agreement scores with statements taken from other programs than with their own. It is interesting, however, that in every program the teacher given the highest rating by consultants has the highest agreement score with statements from her own program. Thus in part, the results of the Statements Test may indicate the success of teacher training. The greater variability among teachers probably reflects to some extent the difficulty of interpretation of the statements, some of which even the consultants found somewhat ambiguous. Further refinement of the test might result in higher validity.

3. Consultants' Reports

Consultants' reports were also requested on the teachers and programs following the in-service training sessions. These were more useful as aids to in-service training than as evaluations. In general, however, they do correspond well with actual ratings given on the Consultant's Evaluation Form.

IV. ANALYZING TREATMENT DIMENSIONS

Even a superficial examination of the four programs in this study reveals many similarities among them, as well as some obvious differences. Moreover, the obvious differences could be entirely trivial and unrelated to whatever gains the children might make. If it should be the case, for example, that Bereiter-Engelmann teachers and DARCEE teachers differed from other groups in respect to some dimension of behavior (amount of verbal instruction, e.g.) and if this variable were related to sigificant gains on the part of their children, the question whether they were "really" implementing their programs correctly would become somewhat academic. And even if intact programs do produce different effects, it is essential to know *which* of the differences among them produce these effects. Therefore, in addition to asking whether teachers implemented the programs correctly, we asked this question: *Along what dimension should teacher behavior and classroom activity vary systematically, if these programs are implemented?* The answer to this question offers much greater payoff than the answer to the first.

Although a number of instruments have been devised to assess teacher behavior and classroom activity, none of them seemed entirely adequate

TABLE 8

TEACHERS' AGREEMENT WITH STATEMENTS FROM FOUR PRESCHOOL METHODS

("Statements Test")

	PROGRAM											
	Bereiter-Engelmann			DARCEE			Montessori			Traditional		
Teacher	Ag. %	Dis. %	A-D %	Ag. %	Dis. %	A-D %	Ag. %	Dis. %	A-D %	Ag. %	Dis. %	A-D %
Bereiter-Engelmann												
*Teacher 1	69	8	61	57	10	47	65	11	54	28	52	24
Teacher 2	45	25	20	55	17	38	38	23	15	41	39	2
Teacher 3	42	17	25	50	3	47	46	8	38	33	24	9
Teacher 4	64	21	43	73	9	64	70	8	62	52	32	20
Mean	55	28	37	58	9	49	54	12	42	38	36	2
DARCEE												
Teacher 5	41	22	19	53	8	45	54	8	46	33	20	13
Teacher 6	53	14	39	61	3	58	62	8	54	13	56	43
*Teacher 7	49	20	29	69	8	61	70	8	62	39	22	17
Teacher 8	43	22	21	51	12	39	58	8	50	26	33	7
Mean	46	19	27	59	8	51	61	8	53	27	32	5
Montessori												
*Teacher 9	49	17	32	39	11	28	100	0	100	54	11	43
Teacher 10	36	27	9	43	23	20	57	15	42	39	32	7
Mean	42	22	20	41	17	24	79	8	71	46	21	25
Traditional												
Teacher 11	43	30	13	70	4	66	58	23	35	63	11	52
Teacher 12	31	36	5	42	25	17	30	30	0	48	35	13
*Teacher 13	50	18	32	64	9	55	69	4	65	83	5	78
Teacher 14	30	44	14	63	25	38	38	30	8	43	28	15
Mean	38	32	6	59	15	44	48	21	27	59	20	39

* Rated best by Consultants (See Table 7).

to assess dimensions relevant to differences and similarities among the four particular programs being compared. We therefroe devised a procedure for tallying the teaching techniques and activities to be expected in these four programs.

A. Monitoring Classes

1. Selection of Events to be Monitored

Examination and comparison of the descriptions of programs reveals numerous dimensions along which they vary.

The most important consideration in selecting among these was the extent to which they represented, or were related to, variables of theoretical significance in the area of early learning. For example, the programs can easily be rank-ordered in respect to the priority given linguistic stimulation from the teacher; and the role of language in early learning is a variable of considerable significance in developmental theory.

Selection was also determined partly by practical consideration. For example, although "sequencing" is an important dimension and differentiates three of the programs from the fourth, it would be virtually impossible to assess it by periodic monitoring. Also, it soon became obvious that a tally sheet which included *all* important dimensions of teacher-behavior and classroom activity would exceed the capacity of raters to observe and record during a limited period of time.

The decision was made, therefore, to collect video-tape samples periodically, focusing on teacher-behavior, and to eliminate from class-monitoring procedure all items which could be obtained at a later time from the video-tapes. The use of reinforcement is a good example of a very important dimension which can easily be assessed by means of tape monitoring. The one exception to this was teaching technique, which was felt to be of such great importance that in order to provide greater reliability, it was included on the tally sheet, even though it can also be assessed from tapes.

Finally, consideration was also given to use of the monitoring procedure as another method of verifying treatments, and several events were selected on this basis. The monitoring procedure attempts to assess variables in three major categories: *teaching techniques*, *grouping*, and *classroom activities*. Final tally sheet and manual which were used are attached at App. VI.

(a) Teaching Techniques

-1- Verbal Instruction (IV)

It could be predicted that the four programs would rank on amount of verbal instruction from greatest to least with Bereiter-Engelmann having the most and Montessori, probably, having the least. The Bereiter-Engelmann and DARCEE programs should be clearly in excess of the other two in respect to using language as a method of instruction.

-2- Conversation (Con.)

This category was included for several reasons. For one thing, the DARCEE program stresses conversation among children and between teachers and children. One would also expect that much conversation would take place in the Traditional program since there is ample opportunity for it and it would seem to be the only method for producing gains in ability to use language so far as the Traditional program is concerned. It might be expected to be minimal in the Montessori program and in Bereiter-Engelmann.

Secondly, if "conversation" and "verbal instruction" differ, which is more important? Is it the total amount of verbal interaction which matters, or is it the kind of interaction which is more important?

-3- Exemplary (X)

This is a technique which corresponds in part to the importance placed on sensory stimulation in the various programs. It includes all instances of presenting something to which children listen, look, smell, feel, etc. It should be high for teachers and children in DARCEE, Traditional, and Montessori, and (paradoxically) high for teachers in Bereiter-Engelmann.[1] The kinds of materials used in Bereiter-Engelmann, however, should be almost entirely visual and auditory; whereas in DARCEE, Traditional, and Montessori, particularly the last two, they should be more varied.

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[1] Subsequent experience with the tally sheet indicates that a category of "modeling" should be added in order to collect the high frequency of verbal exemplification which occurs in Bereiter-Engelmann as distinguished from pure sensorial stimulation in auditory and other modalities, such as with olfactory stimuli, which occurs more often in other programs.

-4- Manipulatory (Manp.)

This cateogry collects activities in which the teacher manipulates something in order to show the children how, or children manipulate something in order to learn how. This category also is related to sensory stimulation, but more directly to the role of imitation. Instances of manipulation by both teachers and children should be low in the Bereiter-Engelmann program, higher in the DARCEE program, and especially high in the Montessori program. In the Traditional program, it should probably be high only for children and not especially for the teacher.

-5- Motor Activity (MO)

This variable should differentiate between the Traditional program and most of the others since this is the only program in which there is much emphasis on development of gross motor skills. It would, of course, be expected to be high primarily for children rather than teachers.

-6- Role-Playing (RP)

Role-playing should be higher for both teachers and children in the Traditional program than in any other. This program emphasizes self-expression and social skills, and learning through play, much of which consists of activities involving fantasy, games, or integrative play. Role-playing should probably be lowest in Bereiter-Engelmann and Montessori, with DARCEE falling somewhere between Traditional and Bereiter-Engelmann.

-7- Physical Guidance (PG)

This dimension was not suggested entirely by program analyses. It is a technique which has been used for many years to teach athletic games which may be important in combination with verbal instruction in certain kinds of complex motor skills. (Cox, 1933). It might logically be expected to occur most often in Traditional classrooms and least in Montessori (where guidance of any kind is given only on request).

(b) Grouping

The primary categories here are: number of groups, kind of groups, and frequency of shifts in constitution of groups.

-1- Number of Groups

In the DARCEE and Bereiter-Engelmann programs, there should be three groups of children, most of the time. Since individuals are counted as separate groups, there should be a larger number of groups in both Traditional and Montessori programs than in the other two.

-2- Kind of Groups

An exhaustive classification of groups can be made in terms of three kinds: Groups of children all engaged in the same kind of activity, for example, all working puzzles (S); groups of children in physical proximity, but doing different things and not working together (D/NF); and finally, groups of children doing different things but engaged in a common enterprise (D/C). Groups doing the same kind of things should be found more frequently in the Bereiter-Engelmann and DARCEE programs. Groups doing different things but with a common group focus (integrative play e.g.) should occur more often in the Traditional program. Groups doing different things and with no group focus (a category which includes single children working individually) should be found more often in Montessori programs. In the Traditional program, it should be possible to find children more often engaged in common enterprises at the end of the program than at the beginning.

-3- Frequency of Shifts

Groups should be relatively stable in the DARCEE and Bereiter-Engelmann programs. In Montessori also, they should be very stable, and more so toward the end of the year as children learn to work for longer periods of time at some individual project. Shifts in groups would be expected to be frequent in the Traditional program.

(c) Classroom Activities

Monitors also recorded the nature of ongoing activities and the specific materials being used. This information may be of interest in itself, but was required to provide context which will assist in the interpretation of tallying where necessary. "Lesson Goal" was included as a check on the teacher's understanding of her procedures.

2. Development of the Instrument

Monitoring was done by the permanent research staff, including the Project Director, assisted by a few of the testers from Groups A and B. Tally sheets were discussed, tried out in classrooms, modified, tried again, etc. This process continued for three sessions until everyone was in agreement and satisfied with the instrument.

In order to assess inter-rater reliability the following procedure was used: First, all five monitors simultaneously observed video-tapes of classrooms from each of the four program styles. Use of a stopwatch permitted monitors to observe and tally during the same 15-second intervals. Tallying was done every other 15 seconds. The entire session lasted about two hours. A Chi square test for independence of raters and categories was made. Although the statistic was not significant, (Table 9) the major portion of the error was contained within the Manipulatory category. Discussion among research staff revealed that a slight misunderstanding had occurred as to when the teacher was actually manipulating objects as a teaching technique. A second monitoring session was held, again using tapes, and Chi square analysis indicated no significant difference among raters. (Table 9). This second reliabiltiy study also indicated that the discrepancy in the Manipulatory category had been eliminated, the error being evenly distributed among categories. Thus monitors were found to be reliable and also fairly similar in making whatever errors did occur. Finally, two of the monitors went into a classroom and, coordinating their tallying intervals, monitored for one hour. This also was analyzed by means of Chi square and the results (Table 9) suggest that these monitors were consistently recording events in the same categories.

In order to insure continued consistency and obtain information on monitor reliability at various points during the year, the first reliability study was conducted during the second monitoring period, the second reliability study during the third monitoring session, and the third study immediately following the fourth session (Table 9).

In all studies Chi square analysis was made on tallies with reference to the teachers and their teaching techniques. "Aide", "Volunteer", and "Child" categories were not analyzed.

Scheduling of monitors for classroom observation could not feasibly be accomplished by a counter-balanced design. However, no monitor systematically observed in any one program, and Table 10 shows that monitors were fairly well scrambled among classes and programs.

TABLE 9

RELIABILITY OF MONITORING PROCEDURE: SCHEDULE AND RESULTS

Dates of Monitoring Sessions		Dates of Reliability Checks		Results Chi Square
	Dec. 16-20 (Practice)			
1	Jan. 13-17			
2	Feb. 4-12	#1	Feb. 10	5.83 N.S.
3	Feb. 24-28	#2	Feb. 25	7.02 N.S.
4	Mar. 17-26			
5	Apr. 14-18	#3	Apr. 3	.81 N.S.

TABLE 10

SCHEDULE OF MONITORS BY PROGRAMS AND CLASSES

Programs and Classes	Monitoring Sessions				
	1	2	3	4	5
			Monitors		
Bereiter-Engelmann					
Byck	L.M.	S.W.	S.W.	N.N.	S.W.
Kennedy	S.Wh.	N.N.	N.N.	S.W.	R.R.
Strother	N.N.	S.W.	S.W.	S.W.	N.N.
Washington	S.W.	N.N.	S.W.	S.W.	N.N.
DARCEE					
Brandeis	S.W.	N.N.	S.W.	L.M.	S.W.
Lincoln	N.N.	S.W.	L.M.	N.N.	S.W.
Perry	N.N.	-	N.N.	S.W.	S.W.
Virginia Avenue	S.W.	L.M.	N.N.	S.W.	N.N.
Montessori					
Byck	S.Wh.	N.N.	R.R.	S.W.	N.N.
Kennedy	L.M.	S.W.	S.W.	S.W.	S.Wh.
Traditional					
Carmichael	S.W.	N.N.	S.W.	S.W.	N.N.
Strother	S.W.	S.Wh.	-	S.W.	L.M.
Taylor	N.N.	S.W.	S.W.	N.N.	S.W.
Virginia Avenue	S.W.	R.R.	S.W.	N.N.	S.W.

B. Assessment of Teachers

1. Video-Tapes

Throughout the year, video-tapes were made of each class during the same periods when class monitoring was done. In many cases the tapes were taken in classes while they were also being monitored. These tapes focused on the teacher, who was followed closely for a period of at least 10 minutes. Teachers wore the microphone around their necks and the transmitter around their waists. They were not connected in any way to the camera and were free to move around the room and follow their customary procedures. Teachers were not notified of the exact time at which tapes would be made, except that they expected it to occur during the week set aside for monitoring. They were instructed to continue their plans, regardless of whether a particular activity happened to be representative of their program. No attempt was made to maximize differences by having, for example, Bereiter-Engelmann teachers conduct patterned-drill during taping. The goal of the taping was to obtain a random sample of teacher behavior throughout the year. Since taping was done five times, during the five weeks of monitoring, a total of 50 minutes should be available for analysis.

In addition to analysis of teaching techniques (which were also tallied by in-class monitors), tape-monitoring will be used to assess teaching style (such things as demands for information, indirect requests for performance, direct questions, giving of information, etc.) rate, pace, reinforcements (contingent or non-contingent) and many other aspects of teacher behavior.

This procedure is in process. Tally sheets and preliminary manual are attached (App. VII).

2. Tests

Attitudes, personality characteristics, and teacher intelligence may have direct effects on childrens' performance, but in addition they may interact with the effects of training programs. Although it would be impossible to unravel these complexities in one study, an attempt was made to obtain some information by means of questionnaires and tests.

(a) Peabody Picture Vocabulary Test (PPVT) was administered to all 14 teachers. This test lacks the threatening qualities of an IQ test, such as the WAIS, yet provides an estimate of vocabulary, which is the best single estimate of IQ. It has an adequate ceiling. Results are shown in Table 11.

TABLE 11

RESULTS OF PEABODY PICTURE VOCABULARY TEST

Program and Teacher	P.P.V.T. I.Q.	Mean
Bereiter-Engelmann		
Teacher 1	123	
Teacher 2	99	
Teacher 3	97	
Teacher 4	114	108.25
DARCEE		
Teacher 5	88	
Teacher 6	95	
Teacher 7	91	
Teacher 8	105	94.75
Montessori		
Teacher 9	128	
Teacher 10	135	131.50
Traditional		
Teacher 11	118	
Teacher 12	94	
Teacher 13	109	
Teacher 14	89	102.50
All Teachers		106.07

(b) Sixteen Personality Factor Questionnaire (16PF)[1]

This test was selected because it measures "sixteen functionally-independent and psychologically-meaningful dimensions" by a factor analytic research program. It is an objective personality inventory standardized by the Institute for Personality and Ability Testing (Cattel and Eber). The sixteen primary bipolar factors are as follows: (A) Reserved vs. Outgoing, (B) Less Intelligent vs. More Intelligent, (C) Affected by Feelings vs. Emotionally Stable, (D) Humble vs. Assertive, (E) Sober vs. Happy-go-lucky, (F) Expedient vs. Conscientious, (G) Shy vs. Venturesome, (H) Tough-minded vs. Tender-minded, (I) Trusting vs. Suspicious, (J) Practical vs. Imaginative, (K) Forthright vs. Shrewd, (L) Placid vs. Apprehensive, (M) Conservative vs. Experimenting, (N) Group-dependent vs. Self-sufficient, (O) Undisciplined Self-conflict vs. Controlled, (P) Relaxed vs. Tense. Four secondary factors are: (I) Low Anxiety vs. High Anxiety, (II) Introversion vs. Extraversion, (III) Tenderminded Emotionality vs. Alert Poise, (IV) Subduedness vs. Independence. Results have not been analyzed.

(c) Neill's "Questionnaire for teachers"[2] attempts to assess teachers' attitudes towards teaching and the disadvantaged population. Results have not been analyzed.

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[1] The Institute for Personality and Ability Testing
1602 Coronado Drive, Champaign, Ill. 61820

[2] Neill, Robert, D., And Bein, Sara Lee, "An Attitude Scale for Teachers of the Culturally Disadvantaged".
Technical Supplement No. 2, Head Start
Louisville & Jefferson County Community Action Commission
Evaluation, University of Louisville, Louisville, Kentucky
June 9, 1967

V. ASSESSING TREATMENT EFFECTS

A. Selection of Instruments [1]

The primary criterion guiding the selection of tests to evaluate changes in children's performance was the necessity to tap a wide range of dimensions in which change might be expected to occur. This decision was dictated partly by the varied nature of the programs, which have to some extent widely different goals for the children, and partly by the paucity of knowledge in the area of compensatory education as to what changes might be most lasting or effective at later periods.

Four major dimensions of development were chosen: Cognitive, motivational, perceptual, and social. A fifth very important dimension was eliminated; namely, personality. The lack of suitable instruments to assess personality variables in four-year-olds and the necessity to limit testing time for children of this age made impracticable the attempt to measure such variables as ego strength, anxiety, etc., in addition to the areas more obviously related to academic progress.

1. Cognitive Variables

(a) Stanford-Binet, Revised, 1967.[2] The decision to use the Stanford-Binet as a measure of intellectual functioning was supported by a number of considerations, among them the fact that the Binet is, to date, the best predictor of school achievement, and is probably the best single test of global IQ. The wide use of the Binet in studies assessing the value of various programs for preschool children was an additional argument for its inclusion. Program developers have themselves used it to assess the Bereiter-Engelmann and DARCEE programs.

(b) The PreSchool Inventory [3]

Although it has a high correlation with the Stanford-Binet, the PreSchool Inventory was selected because of four sub-tests in the standardization version, representing factors for which we had no other instruments of assessment. These factors, Personal-Social-Responsiveness, Associative Vocabulary, Concept Activation-Numerical and Concept Activation-Sensory, do not appear on the 1968 revised version of this instrument which was used. However, results should be analyzable in terms of these sub-test factors. The 1968 Research Version of this instrument contains 64 items, a considerable reduction from the original 85.

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[1] All tests were purchased from the publisher unless otherwise indicated.

[2] Houghton Mifflin Company, 666 Miami Circle, N.E., Atlanta, Ga. 30324

[3] Educational Testing Services, Princeton, New Jersey 08540

(c) Quick "Culture Fair" Picture Vocabulary Test [1]

The selection of this instrument represents an attempt to assess intellectual functioning by means of a test which does not penalize the disadvantaged child. The authors provide evidence that the Quick is "culture fair" in this sense. (1962). The Quick is very easy to administer and also very short. The child is given a card on which there are four pictures. As the examiner speaks a word, the child's task is to select from the four pictures the one which best represents that word.

2. Motivational Variables

While the Bereiter-Engelmann program and the DARCEE program are directed toward the learning of specific skills, the other two, Montessori and the Traditional programs, aim rather at more subtle effects on the child's whole orientation towards the learning process. Their effects should be measurable in terms of changes in motivation, such as persistence, curiosity about the world, and need to achieve. The DARCEE program, although incorporating a considerable amount of didactic training of teacher-selected goals, contains much emphasis on efforts to develop appropriate attitudes, such as delay-of-gratification, need-for-achievement, and persistence. It seemed desirable, therefore, to select tests which would assess these variables.

The Cincinnati Autonomy Battery (CAB) was developed for this purpose, having been used in close conjunction with a Montessori program. (Banta, 1968). The Battery contains seven tests, four of which were selected for use.

(a) The Curiosity Box

This test is precisely what the name implies, a box containing a variety of items inside and outside which the child can manipulate or look at. The CAB Manual does not provide any test-retest reliability data and it is therefore difficult to predict post-test performance in terms of change scores. It could be predicted, however, that at the end of the year there should be more children who were comfortable in making contact with the item and exploring it, both manually and visually, than was the case initially in the fall. Data from this study will provide some information regarding amount of change to be expected from different initial levels of exploration. A Curiosity Box was borrowed from the University of Cincinnati and four duplicates were constructed in the Psychology Department shop.

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[1] Psychological Test Specialists, Box 1441, Missoula, Montana 59801

(b) The Replacement Puzzle

This instrument was designed as a test of task-persistence. The child is provided with a board on which there are a number of non-removable shapes and four shapes which can be lifted out. These four can be replaced in only one way so that they will lie flat. The time limit of three minutes makes this a very difficult task for most four-year-olds, and few of them are able to solve it within this interval. A distractor is provided at the end of two minutes and the child's score is based on the total length of time during which he is oriented towards solving the task both before and after distraction. The Replacement Puzzle was duplicated from an overlay of the original model.

(c) The Dog and Bone Test

According to Banta (1968), this is a test of "initiative". The material consists of a small board on which are four wooden houses, one at each corner, a small dog at one end, and a bone at the other. The task is to devise a variety of paths over which the dog can travel in order to reach his bone. The score is based on the number and quality of different paths which the child is able to produce. This might also be considered a test of creativity, inventive thinking or some other aspect of cognitive style. This test was duplicated from drawings and measurements of the original.

(d) Face Sheet of the Binet

Hess, et. al., (1966) report that eleven items from the Face Sheet of the Binet have loadings on three factors: Achievement motivation, confidence in ability, and activity level. No single test of achievement motivation in children as young as four years could be found. Therefore, the Face Sheet of the Binet was used with the intention of extracting scores on the three items loading on achievement motivation. Since the same authors report a sizeable correlation between IQ on the Binet and scores on the Face Sheet, the Face Sheet was also filled out on children after they were given the PreSchool Inventory by a different group of testers. Comparison of these two assessments will provide additional information on the question of correlation with IQ, and on the validity of these ratings. Permission was obtained from the publishers to duplicate the Face Sheet.

3. Perceptual Variables

The Bereiter-Engelmann and DARCEE programs should improve visual and auditory discrimination since development of these skills occupies a central focus in both programs.

(a) Embedded Figures Test

This is the fourth test from the CAB. The task is to locate a cone embedded in various line drawings, some geometric and some realistic. The child covers the cone with a duplicate cut-out.

The author believes that it measures "field-independence". From the point of view of the present research, however, interest was centered on its assessment of a fairly complex visual skill involving identification, separation of figure from ground and perhaps other aspects. No test of simple visual discrimination for four-year-olds was located in time for pre-testing. Embedded Figures was xeroxed from the original.

(b) Wepman Auditory Discrimination Test [1]

The Wepman assesses differentiation on initial and final consonants and middle vowels. Although it has been standardized only down through the age of five, it was selected because at the time it seemed to be the only standardized test of auditory discrimination available which could be used with four-year-olds.

4. Social Variables

Many social skills should be enhanced by all of the programs being compared. Such things as ability to interact easily with other children and adults, responsibility for one's possessions and one's personal management, ability to conform to rules, etc., would be included under this heading. Development of more integrated play and a higher level of social maturity is a major goal of the Traditional program.

(a) Behavior Inventory

This rating scale, developed for the Office of Economic Opportunity, was completed on each child at the beginning of the year by both teachers and aides, independently. It was completed again at the end of the year by both teachers and aides. The version of the Behavior Inventory used is that recommended by Hess, et. al., (1966) consisting of twenty items which can be summed to form sub-test scores loading on five factors: Aggression, verbal-social participation, timidity, independence, and achievement motivation. The original four-point scale was used since these authors found the correlation between the four-point and the expanded seven-point scale to be very high.

(b) Face Sheet of Binet

Ratings on the Binet Face Sheet also load on factors called (Hess, et. al., 1966), "Timidity", "Verbal-Social Participation", "Aggression", and "Independence".

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[1] Language Research Association, 300 N. State St., Chicago, Illinois 60610

B. Recruiting and Training the Testers

1. Stanford-Binet Testers

(a) Recruitment

This group consisted of advanced graduate students, or professional psychologists who were well trained and experienced in the administration of the Stanford-Binet to young children. Criterion was completion of at least one supervised clinical practicum at the University of Louisville. In fact, however, all testers had completed at least two practicums in testing, and many of them had previously tested large numbers of Head Start students.

(b) Training

The Binet testers were given an orientation of approximately one hour, primarily to acquaint them with procedures and to orient them towards standard instructional procedures and the research design.

2. Other Testers

The remainder of the tests, eight in all, were divided into two groups in such a way that total testing time for each group of tests was approximately twenty to forty minutes. This arrangement also had the effect of balancing the various kinds of tests within both groups, e.g., Group A:

Curiosity Box
Embedded Figures
Wepman Auditory Discrimination
Quick Picture Vocabulary

Group B:

Replacement Puzzle
Dog-and-Bone
PreSchool Inventory
Face Sheet of Binet

Within each group the test considered to be the most interesting to the children was given first. In Group A this was the Curiosity Box. In Group B the Dog-and-Bone.

(a) Recruitment

A number of graduate students in Psychology and Education were recruited and trained to give these tests, half being trained on Group A and half on Group B tests.

(b) Training

The training program consisted of twelve hours for these testers. Most of this time consisted of seminars on the tests themselves, administrative procedures, scoring, discussion of methods of handling four-year-olds, general rules in testing, and the purposes of the research. In addition, all testers were required to give all four of their tests to at least three 4-year-olds. These arrangements for practice testing were made with a private preschool. Following this practice testing, a final seminar was held at which various questions and problems were discussed. (Copy of training schedule is attached as App. VIII).

C. Pre-Testing

1. The Experimental Group

(a) Selection of Sample

Although only 12 subjects in each class were required by the design, in order to allow for anticipated attrition, all subjects enrolled in experimental classes were tested insofar as this was possible. Only seven children, out of approximately 300 available, were not tested at all. Three of these were repeatedly absent, and dropped out of the programs later on. The other four were untestable. Of these four, one was known to be retarded, and three simply could not be persuaded to respond even after repeated efforts by different testers. A total of 275 subjects were given all tests; 288 were given both Group A and Group B tests and 291 were given Group A only. These discrepances reflect the order in which the tests were given. By the time the Binet was given, weather conditions had worsened, producing much greater absenteeism.

(b) Pre-Test Timing

Since for most of these children the testing situation would be their first, pre-testing was not begun until the middle of October. By this time, children in the experimental classes had been in school for six weeks, had become familiar with a variety of adults, were accustomed to answering questions, following directions, etc. Gains from pre- to post-test should thus reflect true gains in performance rather than the greater accuracy of a second test due to adjustment to school. At least, the factor of testability should be minimized.

(c) Order of Testing

All subjects were given both Group A and Group B tests first, followed by the Stanford-Binet. Although it was not possible to achieve strict counterbalancing of the order of presentation so far as Group A and Group B tests are concerned, the order was random in respect to programs. It will be possible to assess the order effect, should one exist. Within Groups A and B, the order of testing remained the same for all subjects. Thus by the time the children were given the Binet, they had taken seven other tests given by two different testers, and were fairly sophisticated regarding testing procedure. This fact, in addition to the six-week postponement of testing to allow for school adjustment, should further minimize the "testability" factor for the Binet. The initial tests in Groups A and B, moreover, are very good for establishing rapport since they have high intrinsic interest for young children.

(d) Controlling for Tester Bias

-1- Group A and B Tests

These testers entered classes and tested all available children, then moved on to another class, sometimes within the same school, sometimes at another school. So far as programs are concerned, testing schedule was fairly well scrambled. Initially, there were five testers in each group. The schedule was arranged in such a way that testers alternated programs as they finished classes. Group B testers followed on the heels of Group A testers, completing classes as they were vacated by Group A testers, or vice versa. Strict counter-balancing was not possible because of the variation in the schedule of testers. Some were full time, some part time; consequently some tested more children than others did. Tables 12 and 13 show schedules for these testers. Testers were kept uninformed regarding the nature of programs in individual classes.

-2- Binet Tests

Ten individuals did Binet testing. Again, the schedule of the testers determined to some extent how many children they could test, but in this case also, the schedule was arranged so that there was no systematic bias so far as programs were concerned. (Table 14). For the bulk of the testing it was possible to rotate testers among programs. These testers also were not informed regarding programs.

TABLE 12

PRE-POST TEST INTERVALS AND TESTERS' SCHEDULE: GROUP A TESTS

Program	Pre-Test Period	Pre Tester	Pre-Post Interval		Post-Test Period	Post-Tester
Bereiter-Engelmann			Mo.	Da.		
Area						
Jackson	10-23-68 10-24-68	N.N. F.J.	6	5	4-28-69	N.N.
California	10-23-68 10-24-68	K.P.	6	0	4-23-69	N.N.
Russell	10-14-68 10-16-68	M.B.	6	0	4-15-69	K.P.
Park-DuValle	10-29-68 11-5-68	M.B. K.P.	5	27	4-28-69	N.N.
Mean			6	1		
DARCEE						
Jackson	10-22-68 10-24-68	M.B.	5	29	4-22-69	N.N.
California	10-16-68 10-21-68	S.J.	5	28	4-16-69	K.P.
Russell	10-25-68 10-30-68	N.N.	6	1	4-29-69	K.P.
Park-DuValle	10-14-68 10-16-68	N.N.	6	9	4-24-69	M.B.
Mean			6	2		
Montessori						
Russell	10-17-68 10-21-68	M.B.	6	11	4-30-69	N.N.
Park-DuValle	10-28-68 10-29-68	N.N. K.P.	5	26	4-24-69	K.P.
Mean			6	3		
Traditional						
Jackson	10-18-68 10-21-68	N.N.	6	3	4-22-69	K.P.
California	10-25-68 10-28-68	S.J. M.B.	5	29	4-25-69	N.N.
Russell	10-14-68 10-16-68	S.J.	6	6	4-21-69	K.P.
Park DuValle	10-15-68 10-17-68	K.P.	6	5	4-21-69	N.N.
Mean			6	3		
Controls	11-24-68 11-27-68	M.B.-K.P. S.J.-N.N. F.J.	6	0	5-5-69 5-23-69	K.P.

TABLE 13

PRE-POST TEST INTERVALS AND TESTERS' SCHEDULE: GROUP B TESTS

Program	Pre-Test Period	Pre Tester	Pre-Post Interval		Post-Test Period	Post-Tester
Bereiter-Engelmann			Mo.	Da.		
Area						
Jackson	10-14-68 10-18-68	H.W.	6	15	4-30-69 5-1-69	C.H.
California	10-14-68 10-18-68	S.W.	6	2	4-17-69	R.N.
Russell	10-29-68 10-30-68	S.W.	5	23	4-22-69 4-24-69	R.N.
Park-DuValle	10-18-68 10-25-68	R.N.	6	14	5-5-69 5-6-69	C.H.
Mean			6	6		
DARCEE						
Jackson	10-14-68 10-18-68	M.A.S.	6	8	4-23-69 4-24-69	S.W.
California	10-22-68 10-24-68	S.W.	6	5	4-28-69 4-29-69	C.H.
Russell	10-24-68 10-28-68	H.W.	6	6	5-2-69	J.H.
Park-DuValle	10-21-68 10-22-68	H.W.	6	8	4-28-69 4-30-69	J.H.
Mean			6	7		
Montessori						
Russell	10-25-68 10-28-68	S.W.	6	12	5-7-69 5-8-69	C.H.
Park-DuValle	10-14-68 10-16-68	R.N.	6	8	4-22-69 4-24-69	S.W.
Mean			6	10		
Traditional						
Jackson	10-15-68 10-17-68	H.W.	6	0	4-16-69	R.N.
California	10-16-68 10-18-68	S.W.	6	21	5-8-69	J.H.
Russell	10-24-68 10-28-68	R.N.	5	21	4-17-69 4-18-69	S.W.
Park-DuValle	10-23-68 10-28-68	M.A.S.	6	11	5-6-69 5-7-69	S.W.
Mean			6	6		
Controls	11-4-68 11-25-68	S.W.	6	0	5-19-69 5-23-69	J.H.

TABLE 14

PRE-POST TEST INTERVALS AND TESTERS' SCHEDULE: BINET TESTS

Program	Pre-Test Period	Pre Tester	Pre-Post Interval		Post-Test Period	Post-Tester
Bereiter-Engelmann			Mo.	Da.		
Area						
Jackson	11-1-68	T.O.	6	4	5-5-69	T.D.
California	10-30-68	J.C.	6	6	5-5-69	B.R.
Russell	11-7-68	R.G.	6	6	5-13-69	M.A.B.
Park-DuValle	11-20-68	T.D.	6	0	5-20-69	A.B.
Mean			6	4		
DARCEE						
Jackson	10-27-68	B.R.	6	2	4-29-69	B.R.
California	10-27-68	A.B.	6	8	5-5-69	M.A.B.
Russell	11-9-68	P.M.	5	29	5-7-69	B.R.
Park-DuValle	10-25-68	R.G.	6	11	5-6-69	B.R.
Mean			6	5		
Montessori						
Russell	11-7-68	B.R.	6	14	5-21-69	J.C.
Park-DuValle	11-5-68	J.W.	5	25	4-30-69	T.D.
Mean			6	5		
Traditional						
Jackson	11-4-68	M.A.B.	6	1	5-5-69	B.R.
California	11-9-68	A.B.	6	0	5-9-69	B.R.
Russell	11-10-68	A.B.-L.H.B.	5	28	5-8-69	J.C.
Park-DuValle	10-29-68	R.G.	6	9	5-8-69	B.R.
Mean			6	2		
Controls	12-2-68	B.R.-T.D. M.A.B. J.C.-A.B. J.W.	5	27	5-29-69	A.B. M.A.B. T.D. J.C. A.B.

(c) Order of Testing

Control subjects were given tests in the same order as experimental children. Again, some were given Group A first, some Group B first, but always the Binet last.

(d) Controlling for Tester Bias

Testers' schedules were thoroughly random as far as testing of controls is concerned. (Tables 12, 13, and 14, pgs. 64, 65, & 66).

(e) Testing Time

Testing of control subjects was initiated on November 4, 1968. Within five weeks, 39 control children had been tested. Although this was fewer than the 48 which the design called for, it was decided at this point to terminate testing of control subjects for two reasons: (1) the necessity to leave a pre-post-test interval comparable to that provided for experimental subjects, and (2) the fact that the pool of suitable children appeared to be exhausted.

D. Post-Testing

1. The Experimental Group

(a) Selection of Sample

Insofar as it was possible, all subjects who had been pre-tested were also post-tested. A total of 243 children were given all post-tests, in contrast to 275 who were pre-tested. This is a loss of 32 children making an attrition rate of approximately 11½%. Of the 32 children who were not re-tested, 22 were experimental subjects who had dropped out of the program entirely. Of the remaining 10, 4 were controls. Three of these had entered Head Start classes during the year, and one child died. One experimental child moved and thus shifted from one program to another. The remaining 5 were repeatedly absent and were not reached for re-testing. A total of 250 subjects were given both Group A and Group B tests at the end of the year.

(b) Pre-Post-Test Interval

Although the school year continued for nine months, the necessity to allow for a period of adjustment to school at the beginning of the year, and the total testing time involved on both ends, shortened this interval considerably. The goal was a pre-post-test interval of approximately six months. Tables 12, 13, and 14 (p. 64, 65 & 66) show what these intervals were by classes and by programs. Clearly, the largest differential between groups is 10 days between controls and Montessori children on Group B tests.

In order to maintain the same interval of time for all subjects, it was necessary to test classes in the same order in which they were pre-tested insofar as this could be done. A number of factors made it impossible for a precise order to be maintained, factors such as a large number of field trips which were taken in the spring and other activities involving particular classes. In general, however, the same order was followed, both in terms of intact classes and also within classes. Children who had been "stragglers" in pre-testing were tested last within classes. There can hardly be any question that the procedures were successful in reaching the goal of a 6-month pre-post-test interval for all programs.

(c) Order of Testing

Post-tests were given to the children in the same order in which the pre-tests were given--i.e., Group A or Group B first, followed by Binet. Within Groups A and B, the same order of tests was maintained.

(d) Controlling for Tester Bias

As shown in Table 14, there were 10 Binet testers available for pre-testing but only 6 of these did the post-testing. Schedules were arranged so that, except for one class, children were post-tested by a different person than the one who did the pre-testing. The majority of post-tests were given by one tester, but within programs at least one class was tested by a different person; in other words, testers were spread among programs insofar as this was possible.

For Groups A and B tests the same procedure was followed as shown in Tables 12 and 13. One Group A tester was lost during the year.

Three Group B testers were lost and it was necessary to train two additional testers. These new testers were trained in the same way in which training was done for the pre-tests, including the practicum testing.

(e) Total Testing Time

Post-testing was accomplished in a much shorter period of time than pre-testing, partly due to improved weather conditions in the spring, and partly because of increased efficiency in scheduling. In addition, of course, there were fewer children tested. Post-testing was begun the middle of April, and was concluded on May 29. The control group was tested last, as was the case in pre-testing.

(e) Total Testing Time

The majority of the children were given all tests within approximately three weeks. However, as testing progressed, selective factors produced more restrictions on scheduling. Fewer children remained to be tested, more absentees occurred due to illness and winter weather, and testing time was less economically spent. In some instances, testers had to return to one school several times just to pick up one or two absentees. Consequently, more and more time was required to test fewer and fewer children, stretching out the total time to the end of November. Testing space was at a premium in the schools, with most having room for only one tester at a time, and no schools having more than two available rooms. It was important, therefore, to utilize testing space when it became available.

2. The Control Group

(a) Selection of Sample

The most suitable pool from which to draw control subjects was the waiting list for the experimental classes. Presumably, these children would have characteristics similar to those of the children enrolled in the experimental classes. In fact, analysis of demographic data revealed very similar levels in all areas except that mean income for the control group appeared to be slightly higher than for Head Start registrants. (Table 5, p. 39). Consequently, these waiting lists were exploited fully, even though some loss was anticipated due to children going into experimental classes to replace dropouts. Of the 35 control children tested, 22 were on Head Start waiting lists. Thirteen were children of the appropriate age who were not in any preschool program and who were living in the same school districts as were the experimental children. Their names were obtained from teachers and principals in the schools in which experimental classes were located. They were, in many cases, younger brothers and sisters of children enrolled in these schools.

(b) Pre-Test Timing

Children in the control group had to be brought to the schools twice in order to be given the full battery of tests. The problem of motivating parents to make these two trips was difficult. A $5.00 payment was made to parents contingent upon returning with the child for the second group of tests. Despite this incentive, however, scheduling of control subjects was tedious. Weather conditions had an effect on whether appointments were broken or kept, and communication with the parents of these children was difficult since many of them did not have telephones.

2. The Control Group

Procedures for testing the control group were similar to those for testing children in the experimental classes.

3. Additional Post-Tests

In order to assess achievement in several specific areas which could be predicted from particular programs, (especially Bereiter-Engelmann) a sample of 6 children from each class was given 4 additional tests:

-1- Parallel Sentence Production [1]

This test requires the child to produce a complete sentence about a drawing, which is on the same page. For example, the tester says, pointing to a drawing, "This small boy is riding a small bike". Then the tester points to the other picture, which is a picture of a larger boy riding a larger bike and says, "Tell me about this picture". The child is given credit if he says, "This large boy is riding a large bike", or "This big boy is riding a big bike".

-2- Expressive Vocabulary Test [2]

This test is similar to a Picture Vocabulary Test, but requires the child to produce a variety of parts of speech, including prepositions, verbs, adjectives, etc., and also requires identification of portions of stimuli, and of collective nouns describing a number of objects. It also calls for comparisons. Examples are: What's the boy doing? (Swimming). This is a whole apple, what part of the apple is this? (Half). See this ball? It is smaller. What about this ball? (Larger or bigger). What are all of these called? (Animals).

-3- Engelmann's Basic Concept Inventory [3]

This is also a test involving pictures, but it requires only the identification of the right picture. It involves listening vocabulary, particular attention to words which change the meaning of sentences and also involves reasoning. For example, on one card the child must find the picture which is correct for the statement, "She is between a boy and a girl". On another card he must differentiate among pictures which correspond to these sentences, "The man is going to chop down the tree", "The man chopped down the tree", "The man is chopping down the tree". Other items test the child's knowledge of language structure with nonsense words. For example, "Fends cannot crump. Can fends crump? What can't fends do?"

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[1] UCLA Preschool Research Projects, Dr. Carolyn Stern, Director 1019 Gayley Ave., Los Angeles, California 90024

[2] UCLA Preschool Research Projects

[3] Follet Educational Corporation, 1010 West Washington Blvd., Chicago, Illinois 60607

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-4- Arithmetic Test

Portions of an arithmetic test devised for use with children in Bereiter-Engelmann classes were combined and used as a test of simple counting and addition.

-5- Peabody Picture Vocabulary Test [1]

This test was given primarily in order to determine whether it and the Quick Test give similar results on four-year-olds. In addition, the Peabody has been used more often than the Quick in studies of preschool programs. In all, 84 children were given these 5 tests. No controls were tested with these instruments. These additional tests were given during the last three weeks of school, i.e., May 20 to June 5.

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[1] American Guidance Service, Inc., Publishers Bldg., Circle Pines, Minnesota, 55014

CONCLUSION

Recording of test scores and other information is virtually complete. Work in process includes the training of monitors who will monitor the video-tapes, preparations for publication on film, and data analysis, which will be inaugurated shortly.

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APPENDIXES

APPENDIX I: STATEMENTS TEST FOR TEACHER ASSESSMENT

1. A preschool teacher should expect children to work hard, to be smart -- she should expect to be proud of them.
2. Dealing with abstractions and social concepts through language are necessary experiences for the culturally-deprived child.
3. A quiet classroom is an ineffective classroom.
4. A preschool program should begin on the first day: There is no need to work the children into a program slowly.
5. Preschool teachers should be cautious about encouraging strong emotional identification in the children.
6. A child should learn to become independent of adult praise.
7. Young children learn most easily through manipulating concrete objects.
8. Isolation as a form of punishment should not be used with the withdrawn or very shy child.
9. The Traditional nursery school is designed primarily for the upper-middle class child.
10. A teacher should guard against over-controlling and over-manipulating young children.
11. Books should be used as rewards to be taken home and enjoyed as personal possession.
12. A preschool teacher should not talk a great deal.
13. The enthusiasm and interest children have in a task is more important than how well they can do it.
14. Preschool children learn primarily through increasing their ability to perceive.
15. A teacher should never discipline a child unless she personally observes the offense.

16. There is justification for treating "cultural deprivation" as synonymous with "language deprivation".
17. A preschool teacher should not have fixed ideas about what preschool children should learn.
18. It is probably true that too heavy an emphasis on coloring books can dampen a child's creativity.
19. There is a series of steps which should be learned in a certain order in every concept.
20. Language as a method of teaching should be minimized with preschoolers.
21. Punishment is sometimes necessary for preschool children.
22. The school environment for the disadvantaged child should be both orderly and predictable.
23. It is important for preschool children to learn to work together as well as to play together.
24. Coloring books have a valuable place in preschool instruction.
25. Certain tasks must be mastered before the child is ready to learn others.
26. Work with young children should be conducted at a leisurely pace.
27. A preschool teacher should provide the child with a realistic definition of success and failure.
28. The no-noise axiom has no place in a preschool classroom.
29. The culturally-deprived child generally receives less reinforcement of his behavior.
30. Social learning is promoted in much the same way in academically-oriented preschools as in traditional preschools.

31. All materials and activities in a preschool classroom should be planned to help the children learn.

32. Every task a child learns consists of certain steps which must be mastered in a certain order.

33. Young children should not be required to sit still for lessons.

34. Presence of parents is often disrupting, and even though it is important for parents to maintain an interest in the school, their presence in the school is not the most productive expression of interest.

35. The reinforcement of the culturally-deprived child is somewhat less adult administered than that of the middle-class child.

36. A "well-rounded" preschool program is incompatible with the goal of remedial education at a faster-than-normal pace.

37. Uncluttered surroundings help insure that a child will not get caught up in the glitter offered by an object-rich environment.

38. Parents of preschoolers should be told not to shame or ridicule the children and to be patient with their mistakes.

39. The only valid impulse to learning is the self-motivation of the child.

40. Preschool children should not be expected to keep quiet.

41. If restraining and admonishing a child does not work and his behavior is destructive or dangerous, physical punishment should be used (slapping or shaking).

42. The reinforcement the culturally-deprived child receives is not likely to be verbal.

43. The traditional preschool provides many of the outstanding cultural advantages of the lower-class environment.

44. A good toy does not teach a little bit of everything. If it is good, it is a good vehicle for learning one concept.

45. The child is the only active person in the learning process.

46. A proper balance between the more restricting sedentary activities and large muscle activities is essential for the young preschoolers.
47. Preschool children should not be given examples to copy.
48. A preschool teacher should avoid shaming or coaxing a child but should enforce rules in a matter-of-fact way.
49. The reinforcement that the culturally-deprived child receives at home is apt to be vague and generalized rather than for specific acts.
50. Preschool children should be grouped roughly accordingto their ability to learn.
51. The "whole child" approach amounts to giving the disadvantaged child a smattering of learning in many areas.
52. During unstructured periods in preschool, children should have their choice of listening to a story, looking at a book, drawing, or playing with toys.
53. The major contribution that education can make to the child's over-all development is to provide him with the tools he needs to pursue his own development more successfully.
54. Through careful planning, competition can have a helpful effect upon preschool children.
55. During the time the teacher is presenting a lesson, preschool children should sit in assigned seats and leave their places only with the teacher's consent.
56. Mothers of culturally-deprived children are more concerned about the child's not being troublesome than with his learning more about his world.
57. It is probably undesirable to defer the introduction of school-type learning until the first grade.
58. Telling and reading stories should never be a passive experience.
59. Children can learn a great deal from play, but an educational program should not be based on the play motive.

60. The use of affection with culturally-deprived preschool children has its dangers.

61. Preschool children should be held responsible for returning play materials to their proper places.

62. Research findings indicate that achievement motivation is associated more with middle-class than lower-class children.

63. The preschool teacher should not waste time on learning that is of small importance.

64. Preschool children should be encouraged to relate their own experiences about simple activities.

65. The teacher who tries to meet all the child's needs is bound to extend herself beyond her range of competence.

66. Preschoolers experience failure often.

67. During the time a teacher is presenting a lesson, preschool children should not be allowed to interrupt or to relate personal experiences.

68. There is no evidence that culturally disadvantaged preschool children have more emotional problems than middle-class children.

69. It is important for parents of preschool children to require the children to speak in complete sentences.

70. The principal task of the preschool teacher is to prepare the child to enter school.

71. In the preschool classroom, every opportunity should be taken to set the stage so that it is necessary for the child to use language to reach his goal.

72. Generally speaking the reinforcement which an individual receives for a performance will be critical in determining whether or not that performance will be repeated.

73. Preschool children learn slowly.

74. Except when instructed to yell or sing loudly, preschool children should be quiet and restrained -- no yelling, running, or tusseling.

75. The differences between lower-and middle-class children are wider at the fifth-grade level than at the first-grade level.

76. Preschool teachers should set realistic and clearly specified goals which the child can obtain in a relatively short period of time.

77. The preschool child should have numerous opportunities for a choice between immediate and delayed reward. These must be carefully planned so that the delayed reward is definitely more attractive to the child.

78. Successful teaching depends upon small class size and the maintaining of a low adult-to-child ratio.

79. Young children are tender and need a warm, supportive atmosphere.

80. On their way to and from their classroom, preschool children should walk single-file without pushing or crowding.

81. Without exception, studies of three-to-five-year-old children from lower socio-economic backgrounds have shown them to be retarded or below average in every intellectual ability.

82. It is very important that a preschool classroom have a climate of freedom.

83. At the beginning of preschool, the teacher's task is primarily one of using whatever methods she can to get the child to interact with his environment.

84. Education comes through spontaneous exercise of the child's own faculties.

85. It is dangerous to push a child too hard in the preschool years.

86. A good preschool classroom should be orderly and quiet.

87. In teaching disadvantaged preschoolers, the teacher must focus on academic objectives and relegate all nonacademic objectives to a secondary position.

88. Every activity in the preschool classroom should be evaluated in terms of its purposes.
89. Preschool teachers should never make models and ask the children to copy them.
90. A good teacher does not actually teach. She arranges learning opportunities for children.
91. Young children are easy to manipulate.
92. The language deficit in culturally disadvantaged children consists primarily of failure to master the cognitive uses of language.
93. Everything that happens in the preschool classroom should help children learn.
94. A preschool child's classroom activities should be chosen by him and not by the teacher.
95. Focussing on specific learning goals makes high rates of progress possible.
96. Competition with other children is undesirable for preschoolers.
97. If creativity is equated with freedom, the disadvantaged child usually has too much of it already.
98. By carefully providing successful experiences while continually challenging his skill, the preschool teacher will help to provide an atmosphere in which the child can compete with himself.
99. It is better to reinstruct a child than to tell him he has made a mistake.
100. For the teacher to become a model that children will imitate, it is necessary that the children love her.
101. Preschool children should be able to manage their physical needs gracefully.
102. What disadvantaged children lack mainly is learning, not the fundamental capacity to learn.

103. It is crucial that certain tasks be mastered in a certain order during preschool years.

104. The preschool teacher should use material reward initially and gradually shift to social approval.

105. Reward is usually more effective than punishment particularly when one is concerned with learning new responses.

106. There is no reason to believe that sensory deprivation (lack of stimulation) is a factor in the deficiencies of lower-class children.

107. Academic success in school is of such critical importance that any preschool program that fails to ensure this success has failed the "whole child."

108. A preschool teacher should provide extrinsic reward for appropriate behavior if necessary.

109. Favorable attitudes and emotional adjustment can be fostered just as readily through specific learning activities as through other kinds of activities.

110. Field trips, demonstrations, nature and science projects cannot produce the same level of learning in a child with language deficiencies as they can be in a child who is more advanced in language skills.

111. All knowledge is related and there is no need to compartmentalize it in the preschool.

112. Preschool teachers should do as little talking as possible.

113. On general intelligence tests, disadvantaged children typically score 5 to 15 points below average.

114. Preschool teachers should not emphasize right and wrong answers.

115. The personal relationship between child and teacher is probably the most effective way of motivating preschool children.

116. The child who tries should be rewarded whether or not his performance was correct.

117. It is important to help the preschool child to lengthen his attention span.

118. A preschool teacher should work toward specific leaning goals, maintain discipline, and teach.

119. The traditional preschool is more similar to the lower-class child's home environment than it is to the middle-class child's home environment.

120. The greatest danger in ability grouping is that it will encourage teachers to set lower standards for slower groups.

121. It is very important for a child to learn self-control during the preschool years.

122. There is no substitute for sheer repetition in learning basic patterns.

APPENDIX II: TEACHER INFORMATION

Teacher's Name ________________________ Date ______________

Address ________________________

Circle the number of one answer to each question.

1. How many years of teaching experience have you had?
   1. First experience
   2. Some prior experience, but less than five years
   3. More than five years experience

2. What is your sex?
   1. Male
   2. Female

3. What is the highest level of education you have received?
   1. High school
   2. Some college
   3. Bachelor's degree
   4. Some graduate work
   5. Master's degree or above

4. If you attended college, what was your undergraduate major?
   1. Elementary education
   2. Preschool education
   0. Other area (specify) ________

5. If you did graduate work, what was your major?
   1. Elementary education
   2. Preschool education
   0. Other area (specify) ________

6. How many Head Start classes do you teach?
   1. One
   2. More than one

7. Have you worked with Head Start before this summer?
   1. No
   2. Yes, but not as teacher-in-charge.
   3. Yes, as teacher-in-charge

8. Do you live in the neighborhood the center serves?
   1. No
   2. Yes

9. How much teaching experience have you had with preschoolers?
   1. First experience
   2. Some prior experience but less than five years
   3. More than five years experience

10. How long have you worked with educationally disadvantaged children?
    1. First experience
    2. Some prior experience but less than five years
    3. More than five years experience

11. What special training have you had for the Head Start program?
    1. None
    2. Local training program
    3. 6-day university or college sponsored training program
    4. 8-week university or college sponsored training program
    0 Other(specify) ________

APPENDIX II

TEACHER INFORMATION

(CONFIDENTIAL)

Name:____

Address:______________________________________

Phone No.:______________ **Birthdate:**______/______/______
Month Day Year

Marital Status: ________**Single** ________ **Married**

Spouse's name:__________________________________

Number of Children:___________ **Sex:**________**Female** ________**Male**

Names and ages:__________________________________

Education: Last Year Completed:________________________

Degrees:______________________________________

Courses currently being taken:________________________

APPENDIX III

HEAD START

Registration Information Form - 1968-69

____________________ School

Name of Child: ____________________ Place of birth: __________ City __________ State

Address: ____________________ Birth date: _____ / _____ / _____ month day year

Phone No.: ____________________

(A) Please circle the figure that most nearly describes your total annual family income:

$2000	$2500	$3200	$3800	$4200	$4700	$5300
$5800	$6300	$6800	$7300	$7800	______other	

(B) Please list all sources of income including welfare, social security, etc.,

as well as earnings: ____

We hope to make Head Start a better program each year. This year there will be a few Head Start classes in which there are specially trained teachers, extra equipment, and programs which have produced unusually good results in other places. These programs differ from each other in some ways. A group of people experienced in preschool education from various parts of the country will be observing these classes from time to time during the year and the progress made in different kinds of classes will be evaluated.

It is not possible to guarantee which type of class your child would be placed in. We cannot even promise that he will be selected at all, since children will be assigned in a random manner, and there are only 16 of these classes in the total Head Start program. There may not be any at your particular school.

Unless you indicate otherwise, however, we will include your child's name as eligible for one of the special programs if he or she happens to be selected.

The following information is requested in order to help us find out more about the families that are served by Head Start. It will not become a part of the child's record, but will be combined with information from other schools for a total picture.

Information About the Head Start Child

1. Sex of child: ________ male ________ female

2. Age of child: ________ years ________ months

3. Is the child a twin? ______ yes ________ no

4. Race of child: ________ negro ________ white ________ other

Information About the Child's Family

5. Is the child's mother living in the home? ________ yes ________ no

6. Name of child's mother: ______________________________

7. Her age: ____________ years

8. Her occupation: ______________________________

9. Last grade she completed: ______________________________

10. Is the child's father living in the home: ________ yes ________ no

11. Name of child's father: ______________________________

12. His age: ____________ years

13. His occupation: ______________________________

14. Last grade he completed: ______________________________

15. Does any other relative of the child live in the home? ______ yes ______ no

16. If yes, circle:

    (a) aunt (b) grandmother (c) grandfather (d) other ______

17. How many younger brothers and sisters does this child have? ________

18. How many older brothers and sisters does this child have? ________

19. How many of the older children have attended Head Start? ________

20. Total number in family living at home: ____________

____
Signature of Parent or Guardian

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LOUISVILLE, KENTUCKY

College of Arts and Sciences
Department of Psychology

Child Development Laboratory
Project Head Start Styles

APPENDIX IV: INFORMATION ABOUT FAMILIES

I. Child's Name______________________________ Sex _____male _____female

II. Please describe the exact jobs of the people in your home who work:

A. Father

1. Is father employed? _____yes _____no

2. If yes, what kind of work does the father do?

____

3. Describe exactly what he does on the job:

____

4. How many months did he work during the past year? _________

B. Mother

1. Is mother employed? _____yes _____no

2. If yes, what kind of work does the mother do?

____

3. Describe exactly what she does on the job:

____

4. How many months did she work during the past year? ________

C. Other: What relation to child ______________

1. Is ______________ employed? _____yes _____no

2. If yes, what kind of work does he (she) do?

3. Describe exactly what he (she) does on the job:

____

4. How many months did he (she) work during the past year? ____

VI. Check any of the following which your family has the use of:

A. ________ Television
B. ________ Radio
C. ________ Record player
D. ________ Telephone
E. ________ Automobile

VII. Is there anyone in the family who usually gets a newspaper ____yes ____no

If yes, how often?

________ Everyday
________ Occasionally
________ Once a week

VIII. Check any of the following which apply to your child and tell whether he has had the experience this year in Head Start or some other time:

	In Head Start	Other
1. Visited a zoo		
2. Visited an amusement park		
3. Visited a library		
4. Been to a birthday party		
5. Had a birthday party		
6. Been in pool, lake, river or ocean		
7. Had a pet		
8. Visited a farm		
9. Been on a bus trip		
10. Been on an airplane trip		
11. Been on a train trip		
12. Visited an airport		
13. Been to a museum		
14. Had a birthday cake		
15. Been on a boat		
16. Taken a trip out of town in a car		

Thank you very much for your cooperation. Please use this space if you would like to say something about the Head Start school program that may aid this research project in providing better programs in the future:

V.

A. Is the child's father presently making his home in Louisville?

_____yes _____no

1. If no, where is he living? ____________________________

2. If yes, has the child's father always made his home in Louisville (except for visits or Army service)? ___yes ___no

If no, where did he live last before moving to Louisville?

____

Check the one that tells when he moved to Louisville:

___________ In the last year

___________ In the last 5 years

___________ In the last 10 years

___________ More than 10 years ago

B. Is the child's mother presently making her home in Louisville?

_____yes _____no

1. If no, where is she living? ____________________________

2. If yes, has the child's mother always made her home in Louisville (except for visits)? _____yes _____no

If no, where did she live last before moving to Louisville?

____

Check the one that tells when she moved to Louisville:

___________ In the last year

___________ In the last 5 years

___________ In the last 10 years

___________ More than 10 years ago

III. List the names and ages of all brothers and sisters of Head Start child living at home:

		Name	Age	Date of Birth
____	1.			
____	2.			
____	3.			
____	4.			
____	5.			
____	6.			
____	7.			
____	8.			
____	9.			
____	10.			

Place a check mark beside the name of each of those children who have attended Head Start.

IV. Information about where you live:

A. Do you own your own home? _____yes _____no

If yes, 1. Check whether you pay weekly ( ) or monthly ( ).
Amount of this payment ____________.

2. Number of rooms (not counting baths or halls) _____.

B. Do you rent a home? _____yes _____no

If yes, 1. Check whether you pay weekly ( ) or monthly ( ).
Amount of this payment ____________.

2. Number of rooms (not counting baths or halls) _____.

C. Do you rent an apartment? _____yes _____no

If yes, 1. Check whether you pay weekly ( ) or monthly ( ).
Amount of this payment ____________.

2. Number of rooms (not counting baths or halls) _____.

D. Do you rent in a housing project? _____yes _____no

If yes, 1. Check whether you pay weekly ( ) or monthly ( ).
Amount of this payment ____________.

2. Number of rooms (not counting baths or halls) _____.

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College of Arts and Sciences
Department of Psychology

Child Development Laboratory
Project Head Start Styles

APPENDIX V

EVALUATION OF PROGRAMS BY CONSULTANTS

The following questions are to be answered by consultants who have been involved in the development of special programs for preschool children. The questions are designed to obtain information regarding the programs themselves and their implementation in settings other than those in which they were developed.

In giving your estimates, let 0 = not at all, let 10 = totally, completely, or as much as could possibly be the case. Please assign a value for each answer by circling a number which indicates magnitude.

This first group of questions refers to your particular program in its ideal form.

1. To what extent is your program additive, requiring for its implementation only the addition of special remedial techniques to any program? 0 1 2 3 4 5 6 7 8 9 10

2. To what extent is your program a milieu program involving a total philosophy of education? (One which should be reflected in all activities.) 0 1 2 3 4 5 6 7 8 9 10

3. To what extent could the activities and procedures in a classroom typical of your program serve to identify it to an observer familiar with the program but unfamiliar with the teacher's training? 0 1 2 3 4 5 6 7 8 9 10

4. Assume that college students have had two or three hours of instruction regarding your program. How successfully would you expect them to be able to identify your program by observing a classroom for 10 minutes? 0 1 2 3 4 5 6 7 8 9 10

5. How successfully by observing for one hour? 0 1 2 3 4 5 6 7 8 9 10

6. How successfully by observing a whole class period? 0 1 2 3 4 5 6 7 8 9 10

This group of questions calls for your opinion as to the extent to which your program has been successfully implemented in our study. The estimation given under "A" in each case should be made by comparing each class with the ideal class under ideal conditions. The estimation given under "B" in each case should be made by comparing each class with the extent to which your program could be implemented under less than ideal conditions, such as: Necessity to use para-professionals with relatively brief training as teachers, assisted by aides with even less or perhaps no training, minimum supervision and assistance from experts, less than adequate facilities, modifications or restrictions due to the setting or location.

In other words, we ask you to evaluate each class using two criteria - an absolute one and a relative one.

Names of the teachers are provided for your information, but will not be reported, of course.

In giving your estimate, again let 0 = not at all, let 10 = completely, totally, or as much as could possibly be the case, and assign a value for each answer by circling a number which indicates magnitude.

1. To what extent is the teacher using the actual teaching techniques which are important in your program? (e.g. methods of presenting material, improving performance, etc.)

Teacher:	A. (Compared to ideal)	B. (Considering limitations)
________	0 1 2 3 4 5 6 7 8 9 10	0 1 2 3 4 5 6 7 8 9 10
________	0 1 2 3 4 5 6 7 8 9 10	0 1 2 3 4 5 6 7 8 9 10
________	0 1 2 3 4 5 6 7 8 9 10	0 1 2 3 4 5 6 7 8 9 10
________	0 1 2 3 4 5 6 7 8 9 10	0 1 2 3 4 5 6 7 8 9 10

2. To what extent is the teacher using the materials which are recommended in your program?

________	0 1 2 3 4 5 6 7 8 9 10	0 1 2 3 4 5 6 7 8 9 10
________	0 1 2 3 4 5 6 7 8 9 10	0 1 2 3 4 5 6 7 8 9 10
________	0 1 2 3 4 5 6 7 8 9 10	0 1 2 3 4 5 6 7 8 9 10
________	0 1 2 3 4 5 6 7 8 9 10	0 1 2 3 4 5 6 7 8 9 10

3. To what extent is the teacher implementing the principles or philosophy which are important in your program?

________	0 1 2 3 4 5 6 7 8 9 10	0 1 2 3 4 5 6 7 8 9 10
________	0 1 2 3 4 5 6 7 8 9 10	0 1 2 3 4 5 6 7 8 9 10
________	0 1 2 3 4 5 6 7 8 9 10	0 1 2 3 4 5 6 7 8 9 10
________	0 1 2 3 4 5 6 7 8 9 10	0 1 2 3 4 5 6 7 8 9 10

4. **To what extent are the classroom activities conducted in a context or manner typical of your program? (e.g. ability grouping, scheduling, atmosphere in classroom, behavior management, etc.)**

Teacher:	**A. (Compared to ideal)**	**B. (Considering limitations)**
________	0 1 2 3 4 5 6 7 8 9 10	0 1 2 3 4 5 6 7 8 9 10
________	0 1 2 3 4 5 6 7 8 9 10	0 1 2 3 4 5 6 7 8 9 10
________	0 1 2 3 4 5 6 7 8 9 10	0 1 2 3 4 5 6 7 8 9 10
________	0 1 2 3 4 5 6 7 8 9 10	0 1 2 3 4 5 6 7 8 9 10

5. **To what extent is the selection of classroom activities representative of your program? (e.g. if sequencening is important does the teacher seem to be implementing it properly, and are activities integrated with respect to goals,etc.?)**

________	0 1 2 3 4 5 6 7 8 9 10	0 1 2 3 4 5 6 7 8 9 10
________	0 1 2 3 4 5 6 7 8 9 10	0 1 2 3 4 5 6 7 8 9 10
________	0 1 2 3 4 5 6 7 8 9 10	0 1 2 3 4 5 6 7 8 9 10
________	0 1 2 3 4 5 6 7 8 9 10	0 1 2 3 4 5 6 7 8 9 10

6. **To what extent is the content of the teaching appropriate to your program? (Are the teachers emphasizing the essential learning goals?)**

________	0 1 2 3 4 5 6 7 8 9 10	0 1 2 3 4 5 6 7 8 9 10
________	0 1 2 3 4 5 6 7 8 9 10	0 1 2 3 4 5 6 7 8 9 10
________	0 1 2 3 4 5 6 7 8 9 10	0 1 2 3 4 5 6 7 8 9 10
________	0 1 2 3 4 5 6 7 8 9 10	0 1 2 3 4 5 6 7 8 9 10

7. **To what extent are the facilities of the classroom adequate for implementing your program?**

________	0 1 2 3 4 5 6 7 8 9 10	0 1 2 3 4 5 6 7 8 9 10
________	0 1 2 3 4 5 6 7 8 9 10	0 1 2 3 4 5 6 7 8 9 10
________	0 1 2 3 4 5 6 7 8 9 10	0 1 2 3 4 5 6 7 8 9 10
________	0 1 2 3 4 5 6 7 8 9 10	0 1 2 3 4 5 6 7 8 9 10

8. To what extent are the children making appropriate progress through the program? (As judged by stage of program being implemented.)

Teacher:	A. (Compared to ideal)	B. (Considering limitations)
________	0 1 2 3 4 5 6 7 8 9 10	0 1 2 3 4 5 6 7 8 9 10
________	0 1 2 3 4 5 6 7 8 9 10	0 1 2 3 4 5 6 7 8 9 10
________	0 1 2 3 4 5 6 7 8 9 10	0 1 2 3 4 5 6 7 8 9 10
________	0 1 2 3 4 5 6 7 8 9 10	0 1 2 3 4 5 6 7 8 9 10

9. To what extent are the events in this classroom typical of your program or would serve to identify it to a knowledgeable observer?

________	0 1 2 3 4 5 6 7 8 9 10	0 1 2 3 4 5 6 7 8 9 10
________	0 1 2 3 4 5 6 7 8 9 10	0 1 2 3 4 5 6 7 8 9 10
________	0 1 2 3 4 5 6 7 8 9 10	0 1 2 3 4 5 6 7 8 9 10
________	0 1 2 3 4 5 6 7 8 9 10	0 1 2 3 4 5 6 7 8 9 10

10. To what extent do you regard this class as a demonstration of your program?

________	0 1 2 3 4 5 6 7 8 9 10	0 1 2 3 4 5 6 7 8 9 10
________	0 1 2 3 4 5 6 7 8 9 10	0 1 2 3 4 5 6 7 8 9 10
________	0 1 2 3 4 5 6 7 8 9 10	0 1 2 3 4 5 6 7 8 9 10
________	0 1 2 3 4 5 6 7 8 9 10	0 1 2 3 4 5 6 7 8 9 10

The last question is necessarily open-ended.

(A) In what essential ways are these classes representative of your program?

(B) In what essential ways do these classes deviate from your program?

APPENDIX VI: MANUAL FOR CLASSROOM MONITORING

INTRODUCTION

This manual has been developed for the purpose of monitoring in Head Start classrooms conducted for four-year-olds. It was designed to provide information about classroom activities, teaching techniques, scheduling, materials used, groupings, and a number of other things. The manual is a research instrument in a preliminary form and will probably be modified many times. A sample tally sheet is attached to the manual. The monitoring activity described herein was developed to accommodate requirements of a specific research project involving comparisons among four different types of programs for four-year-olds.

The purpose of monitoring classroom activity with these rating sheets attached is not to evaluate what is going on in these classrooms. The purpose is to gain objective information which will enable us to describe in a very definite way what actually is taking place. There are two reasons for collecting this information: One is to determine the extent to which the various kinds of programs are being implemented in a satisfactory manner. The second reason is to discover, if possible, what major differences there are among programs and among teachers in the same program.

GENERAL INSTRUCTIONS

Preparation

The rating sheets are designed in such a way that very little judgment is required of the rater, but the procedure does require complete familiarity with the categories and definitions. The rater should try not to become too interested in the activities that he is watching as this will distract him from the tallying. However, we would like for the raters to record any interesting events which they observe.

The procedure check list should be studied carefully and the rater should take it with him at the time that he goes to the classroom to monitor so that he can refresh his memory should any question arise. He should also carry with him the explanation for the various categories which are to be tallied.

Behavior in Classroom

With regard to movement in the classroom and general behavior, the following remarks should be helpful. The rater should not be afraid to move around -- in fact, it will be necessary for the rater to move around and to be fairly close to small groups of children in order to determine precisely what is happening. The rater should avoid interrupting teachers at times when they are involved with the children and especially at any time when the teacher is being video-taped. However, raters should not be afraid to talk to the teacher or aide if necessary in order to clarify some decision. In general, the rater should be unobtrusive, shall avoid conversation with the teachers, aides, or volunteers, and especially with the children. Essentially, what this means is that any interaction between the rater and other persons in the classroom should be at the initiation of the rater, and only when it is necessary in connection with decisions regarding monitoring.

There should not be any reason to interfere in any way with the class schedule. The rater should simply record whatever it is that is observed and should follow the children wherever they go insofar as possible. There will not be field trips taken on the monitoring days; but should children go for a walk around the block or go to the bathroom, the rater should continue to tally, making observations as continually as possible.

Confidentiality

Under no circumstances should the raters discuss their monitoring activity with the teachers, aides, or volunteers, nor should these persons be shown the rating sheet. Under no circumstances should the rating sheet or the purpose of the monitoring or any other aspect of the activity be discussed with the principals, or anyone else in the schools, or elsewhere. All questions regarding what it is that we are looking at, or looking for, should be referred to the Project Director. It is especially important that we not give out information which might result in self-consciousness or modification of behavior on the part of those who are dealing with the children. Should the rater observe anything which he feels is extremely detrimental to the children, this should be reported to the Project Director immediately. Raters should strive to be tactful in turning aside questions regarding the monitoring. The most logical reply probably is simply to indicate that rater is not aware of the answer, but any tactful, gracious explanation should suffice.

Time of Monitoring

Raters will be going into classrooms approximately once a month, and at each period of monitoring will spend a two-hour session in the classroom. The purpose of recording for two hours is to get a complete picture of classroom schedule during the morning hours. In general, the most likely time will be from 9 through 11 o'clock in the morning. However, in some cases it may be permissible to monitor from 9:30 to 11:30. The raters should not, however, monitor in the afternoon hours.

Changing the Tally Sheet

The only aspect of the monitoring which is likely to be confusing is the distinction between large blocks of time devoted to various activities and the smaller activity units. In all Head Start classes the school day is broken up into segments which consist of blocks of time devoted to certain kinds of activities. For example, the first large block of time in all classes will usually be the morning snack time when the children first arrive at school; the next is likely to be toileting; then perhaps a period of time devoted to teaching of specific skills or to free-play activity or story time or some other general kind of activity. IT IS AT THE TIME WHEN THESE LARGE ACTIVITY BLOCKS CHANGE THAT THE RATER SHOULD CHANGE HIS MONITORING SHEET. For example, if he is there in time to monitor the arrival of the children, removal of wraps and settling in, he would consider this one large activity. Then if they have their morning snack, this period of time would be recorded on another sheet. The purpose of changing sheets in this fashion is to enable us to determine the total number of such periods during the school day. This may be one dimension of difference among programs. If the raters are successful in changing the sheets at the time when the teacher institutes a change in activity, then the total number of tally sheets which he has used during any one monitoring period will reflect the number of such large blocks of time into which the day was broken up.[1]

Small Group Changes

So long as there is still a single child in a group who was there originally, it is to be considered the same group with a change in size. When group size goes to zero, however, that group should be considered dissolved. When new groups form, they should be tallied as they would have been in the beginning, (that is, as a separate group).

Tally Periods

The purpose of the 15-second interval for tallying teaching techniques is to provide a standard, total amount of time which can be related to the number of instances of each teaching technique. It is, therefore, essential that no more than one instance of any particular technique be tallied in any 15-second period. The total number of 15-second intervals of tallying is not important. What is important is that the ratio of instances of a given technique to the total number of seconds of monitoring reflect accurately and consistently the proportion of instances of such behavior seen. It is the relative amount which is of interest, not the absolute amount.

Time Out

Should the rater need to stop tallying for a few minutes for some reason, such as to rest, to go to the bathroom, or for some other reason, this should not be of great concern. We would like to know that we have not missed any large activity block, but a few minutes time taken out of a given block is not crucial. It is crucial that the total number of sheets used reflect the total number of large segments of time which are devoted to different activities.

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[1] There is room on the tally sheet for only six groups. Should there be more than this, a second sheet can be used and attached to the first one. The lack of a "start" and "stop" time will serve to indicate that the second sheet does not represent a change in schedule. Raters should also number the sheets belonging together.

DEFINITIONS OF MONITORING TERMS

Definition of Groups: Any child alone, or a number of children who are in physical proximity and who are apart from others, constitute a group.

Size of Group: The size of a group should be recorded at the beginning of each tally period and should not be changed during that period. For example, when you return to a group and note that instead of five children there are now four children, you record a 4 and proceed to record the other items. If another child leaves the group before you finish tallying, simply ignore this.

Type of Group:

D/NF = Each child is doing a different thing and there is no group focus or effort.

This would be the case when a group of children are at a table but one is doing puzzles, one working with crayons and another using a pegboard; or if they are on the jungle jim but not engaged in integrative play or games. Coding D/NF would indicate that the group as such is simply a number of children in physical proximity to each other.

D/C = Each child is doing a different thing but there is a common group focus or effort.

An example here is all the groups trimming a Christmas tree or playing a game, but each child has a different role or is doing a different thing. D/C would also be coded if the children are playing a game with each other, such as let's pretend game in which the children are taking turns but all playing the same game.

S = Each child is doing the same thing. S is coded when all children at a table or in an area are engaged in the same kind of activity--for example, if they are all working puzzles, all using crayons and paper, all finger painting or if they are all singing a song or listening to records, toileting, eating breakfast, etc. It is important to note that S is coded whether or not the individual items which the children are working on are exactly the same. For instance, at a table each child might be working a different puzzle; but if they are all working puzzles, this would be coded S.

Activity: On page 8 is a partial list of activities which you are likely to see in the Head Start classrooms. Obviously it is not complete but is given to suggest the level of specificity intended under this heading. It should be noted that more detail is desirable in some cases. For example, if the children are coloring with crayons, it should be noted whether they are coloring the same thing at the suggestion of the teacher -- for example, everybody is drawing a picture of Little Red Riding Hood -- or whether they are simply given paper and crayons and told to draw whatever they wish. It is also important to distinguish between coloring on blank paper freehand and coloring a design, (what is commonly called coloring between lines). If pretend games were listed, it would be necessary to state what game they were playing; if pasting, what they are trying to make would be of interest.

Each different activity observed during the time that a group is intact and being observed for tallying should be listed with a line drawn under each one.

Media: Under this category is expected a more specific statement of the particular materials or content of an activity. For example, if singing songs were listed under activity, the name of the song should be indicated here. If there is any uncertainty as to what to record, simply try to be as specific as possible about what is going on.

Learning Goal: This heading cannot be recorded except by asking the teacher. Following completion of the entire monitoring session you should inquire from the teacher as to the purpose or learning goal of each of the activities which you have listed.

Teaching Technique: The purpose of this category is to determine the relative frequency of use by the teacher, or others, of various techniques of teaching. Therefore, a tally mark should be made only if this particular technique is being used instructionally. For example, during the period that you are monitoring a group the teacher may manipulate various things, her records on the table, for example, but you would not code this under MANP. You would not code I-V unless you actually observe the teacher instructing the children verbally. It is quite possible that any given activity might be coded in two different categories. For example, the teacher might be at the same time showing a child how to do something and verbally instructing him in what she is doing. In this case one tally should be placed under MANP. and one under I-V. During any 15-second monitoring period, however, no more than one tally mark should be placed in any box. If you observe one instance of manipulatory instruction and after coding everything else observe another instance of this, do not tally it. The number of tallies recorded in any 15-second interval should represent the total number of different techniques which you observed in that period but not the amount of any one. Following is an explanation of the codes under Teaching Technique:

MANP. = Manipulatory - Hands

This category collects all activities in which the teacher manipulates something in order to show the children how--how it works or how it is done. Examples would be: the teacher building a tower of blocks, fitting a piece into a puzzle, shaping a piece of clay, showing the children with a paint brush how to use the brush, etc. Manipulation incidental to showing, such as picking up a picture, should not be coded "MANP."

I-V = Verbal - Explanation or Information

This category collects instances of verbal instruction from the teacher to the children, or instances of verbal instruction given by one child to another. It is not to be tallied for incidental verbalization which may be ongoing during an instructional period, such as "That's fine", "Sit up straight", etc.

X= Exemplary

This category collects all instances of showing for the purpose of instructing, that is, presenting something to which others listen or which they watch,or smell, or feel, etc. This would include showing of pictures, objects, designs, single sounds, fragrant items, movies, TV, songs, records, music or persons who are presented as examples; would also include rhythms if demonstrated by the teacher or writing on the chalkboard in connection with instruction.

MO= Motor Activity

This category is intended to be used only when some large muscle activity is going on. Examples would be riding a tricycle, walking a balance board, playing ball, or any active games, marching, doing exercises, playing outdoors, playing on the jungle gym, etc. Motor should not be coded simply because children or teacher are moving around. It should only be coded when this is the principle technique that is occurring at the time. Motor should be coded when children are playing instruments in a rhythm band, marching, doing exercises, and for similar activities which develop large muscle and motor coordination.

RP = Role Playing

Any activity in which a person takes a role other than that of himself or in which he assumes a temporary function, as in a game. Role playing can consist of dramatizations, a brief acting out, pantomine or quiet games such as Lotto. It may occur while the teacher is reading a story to the children and may be a part of this activity. Role Playing should not be coded simply because the teacher uses her voice dramatically, but only if she uses her body, or some part of her body in dramatizing.

PG = Physical Guidance

This category is intended for a very specific activity and will probably seldom be coded for children. Whenever anyone guides a child manually through an activity, PG should be coded. This code will never be used unless there is actual body contact between the adult and the child. The teacher may take the child's hand and guide him in drawing a line or tracing something, or she may take his foot and move it on the points of a triangle. In any case, what is happening is that she is actually taking him through the steps in an activity by being the active person while the child is passively manipulated. If one child guides another, PG should be coded under "Child".

Con. - Conversation

This category will be coded whenever teacher, aide, or volunteer is conversing with a single child. If conversation is going on between children and if it is in regard to what they are doing or has a theme and continues for a time, then this category would be coded after "Child". Fragmentary remarks incidental to the activity would not be coded here, for example, "hand me that", "excuse me", "look at this", etc. The principle purpose for this category is to determine the extent to which teachers and others actually spend time conversing with individual children and the extent to which children are conversing with each other.

Notes: On the back of the tally sheet a space has been left for the recording of any information which may seem important to the rater but which is not included on the tally sheet. This would include unusual occurrences such as incidents of behavior problems, tantrums, the very noticeable neglect of a particular child, any incidents of special attention from the teacher, overactivity on the part of a particular child, an accident or anything of an unusual nature that occurs in the classroom which the rater feels is worth noting. Also here might be coded critical incidents, such as how the teacher handled an unexpected event, how she made a transition from one activity to another, etc.

In summary, anything which the particular rater feels is of special interest should be recorded here.

Comments: There may be activities which cannot be easily coded under any of the categories in Teaching Technique. For example, if a group of children are looking at picture books, there is no teaching technique to be coded. This would be clear from the description of the activity, however. It should be noted that in order to tally separate groups adequately, the rater must move around the room and get close enough to a small group to be able to see and hear exactly what is occurring.

PARTIAL LIST OF ACTIVITIES

- Singing
- Pasting
- Working puzzles
- Painting at easel
- Pretend games
- Table games
- Motor activity - tricycle, jungle gym
- Block play
- Outdoor play
- Listening to story
- Discussing pictures
- Listening to records
- Making music
- Rhythm games
- Dramatizing
- Coloring with crayons
- Cutting or tearing paper
- Feeding fish
- Work with clay
- Eating snack
- Reciting - question and answer
- Toileting
- Resting
- Finger painting
- Peg boards
- Hammering pegs
- Stringing beads
- Stringing popcorn
- Playing in a rhythm band
- Cooking
- Making playdough
- Matching colors
- Matching numbers to quantities
- Identifying numbers (or letters, etc.)
- Telling about something
- Feeling textured materials
- Matching pictures to objects

PROCEDURE CHECK LIST FOR CLASSROOM MONITORING

1. Inform principal's office you are there.

2. Go to classroom, enter and sign in. (Ask for visitor's sign-up sheet if it is not posted.)

3. Record information at top of Tally Sheet, except for "Program". Ask for the teacher's name and the aide's name. It is not necessary to record volunteer.

4. Record "Start" time at top of tally sheet.

5. Survey room and record group "Size", "Type", "Activity", and "Media" for all groups immediately (before any tallying). Draw a line under activity listed for each group.

6. Return to the first group you noted (Group A) and record any change in group size or activity. If another activity is going on, record it and draw a line under it.

7. Place a tally mark after "A: Tally". If no adult is with this group, place a circle on top of the tally, thus: $\overset{\circ}{|}$

8. Look at your watch or stop watch.

9. Tally "Teaching Technique" for 15 seconds. (Tally separately for "T", "A", "V", or "Ch".)

10. Go to Group B and record any change in group size, activity, or media.

11. Place a tally mark after "B: Tally". If no adult is with this group, place a circle on top of the tally, thus: $\overset{\circ}{|}$

12. Look at your watch.

13. Tally "Teaching Technique" for 15 seconds.

14. Go to Group "C" and repeat from 10-13.

15. Continue through all groups.

16. When you have tallied 15 seconds for each group, repeat from 6-15.

17. IMPORTANT:

    A tally must be made each time you return to a group for another 15 seconds of monitoring. The total number of tallies after "Tally → " should equal the total number of 15-second periods of tallying. Should the class activity change before you have a chance to tally at all under "Teaching Technique", erase the tally mark.

APPENDIX VI: TALLY SHEET

School: ________ ________ **Teacher:** ____________________ **Date:** ______________

Program: __________ **Aide:** __________ **Observer:** ______________

Start: ______ **Stop:** ______

GROUP	ACTIVITY	MEDIA	GOAL	TEACHING TECHNIQUES							
A: Tally ⟶				A	MANP.	I-V	X	MO	RP	PG	Con.
Size: ___				T							
- - - - -				A							
- - - - -				V							
Type: D/NF D/C S				C							
				Tot.							
B: Tally ⟶				B	MANP.	I-V	X	MO	RP	PG	Con.
Size: ___				T							
- - - - -				A							
- - - - -				V							
Type: D/NF D/C S				C							
				Tot.							
C: Tally ⟶				C	MANP.	I-V	X	MO	RP	PG	Con.
Size: ___				T							
- - - - -				A							
- - - - -				V							
Type: D/NF D/C S				C							
				Tot.							
D: Tally ⟶				D	MANP.	I-V	X	MO	RP	PG	Con.
Size: ___				T							
- - - - -				A							
- - - - -				V							
Type: D/NF D/C S				C							
				Tot.							
E: Tally ⟶				E	MANP.	I-V	X	MO	RP	PG	Con.
Size: ___				T							
- - - - -				A							
- - - - -				V							
Type: D/NF D/C S				C							
				Tot.							
F: Tally ⟶				F	MANP.	I-V	X	MO	RP	PG	Con.
Size: ___				T							
- - - - -				A							
- - - - -				V							
Type: D/NF D/C S				C							
				Tot.							

APPENDIX VII

VIDEO TALLY SHEET

GIVING

TEACHER'S ACTIVITY	VERBAL	N.VERBAL	EXEMP.	MANIP.	MODEL.	INTERACT
HELP						
OPINION						
GENERALIZATION						
PROCED. INFO.						
CONTENT INFO.						
CLARIFICATION						
CONFIRMATION						
DISCONFIRMATION						
STIMULATION						

FEEDBACK ACTIVITY	K.O.R.	CONTINGENT	N.CONTINGENT
VERBAL & SIGN.			
PHYSICAL			
MATERIAL			
ACTIVITY			

Program______________________ School______________________
Teacher______________________ Date______/______/______
Monitor______________________ Date______/______/______

ASKING

TEACHER'S ACTIVITIES	INDIRECT REQUEST	DIRECT REQUEST	COMMAND
HELP			
OPINION			
GENERALIZATION			
PROCED. INFO.			
CONTENT INFO.			
CLARIFICATION			
CONFIRMATION			
DISCONFIRMATION			
STIMULATION			
IMITATION			
ACAD. VERB. PERF.			
ACAD. N.VERB. PERF.			
CONDUCT (OTHER)			

Program____________________ School____________________

Teacher____________________ Date______/______/______

Monitor____________________ Date______/______/______

SETTING STANDARDS	
STATES REINFORC. CONTINGENCY	
CITES PRINCIPLE	
CITES OTHER CHILD	
CITES TEACHER	
CHALLENGES	

PERIPHERAL ACTS	

OUT OF CONTACT	
IN CONTACT BUT NOT INTERACTING	
CONVERSING	

Program__________________ School__________________

Teacher__________________ Date______/______/______

Monitor__________________ Date______/______/______

APPENDIX VII

MANUAL FOR VIDEO-TAPE MONITORING

GENERAL DESCRIPTION OF CATEGORIES FOR TEACHING ACTIVITY (GIVING)

Horizontal Dimension:

Verbal: An act is verbal when it involves the use of vocalization as the primary mode of operation.

Non-Verbal: An act is non-verbal when it involves a sign or signal system which is a conventional substitute for vocalization.

Exemplary: An act is exemplary when it involves the use of visual or auditory aids as the primary mode of operation.

Manipulatory: An act is manipulatory when it involves the arrangement of objects as the primary mode of operation.

Modeling: Act is modeling when it involves the use of the self or the capacities of the self as the primary mode of operation.

Interactive: An act is interactive when it involves any of the above with the teacher in an assumed role at the child's level.

Vertical Dimension:

Help: These acts occur when the teacher observes that the child is blocked in some on-going activity and where she provides aid in circumventing the difficulty.

"Now it would help to move the yellow block, Ann."

"Jack, you can finish that puzzle if you use the small piece now."

Opinion: Included are acts of expressing or enunciating feelings or sentiments, desires, wants, preferences, wishes, and hopes. Also involved are affirmations of major values and principles but with non-specific or indefinite application.

"I really like the smell of oranges."

"America is a very good place to live."

"I feel ill."

Generalization: Included are all indications of thought-in-progress leading to an understanding or of drawing insight, such as introspection. In doing these things the teacher will largely be seeking the application of a statement, the extension of a point, or the implications of some fact.

"Let me think about what else a ribbon can be used for."

"What if children were twice as big?" (rhetorically).

Procedural Information: Includes those acts which state directions or instructions as to how to go about doing something.

"Children, we will do our spelling lesson now."

"I will point to each picture and you tell me what it is."

Content Information: Includes simply those acts which convey fact:

"Columbus discovered America."

"This is red."

"This is a 'z'; the last letter of the alphabet."

Clarification: All efforts to prevent or repair breaks in the flow of communication such as repeating, or restating for the sake of making sure that one is heard.

"I don't think you heard me. Please sit down."

"In case you didn't hear me--this is a cow."

Confirmation: Includes those acts where the teacher explains to the child precisely how he is correct. (Usually occurs after the teacher states that the student is correct, directly.)

(That's right) "The green piece does go in that hole because it is bigger."

Disconfirmation: Includes those acts where the teacher explains to the student precisely how he was incorrect.

(That's wrong.) "The green piece does not go in that hole because it is too small, its sides don't even touch the sides of the hole."

Stimulation: These are acts on the part of the teacher whose intent is to train perceptual faculties or to make the child aware of stimulus qualities.

"Bricks have brown in them as well as red."

(This is an ovoid)--"See how it is not perfectly round."

GENERAL DESCRIPTION OF CATEGORIES FOR TEACHING ACTIVITY (ASKING)

Horizontal Dimension:

Indirect Request: These are subtle and implicit requests for activity that permit the student ample opportunity to demur. They are more of the nature of suggestions than requests.

Direct Request: These are simple, declaritive statements asking the student to act.

Command: These are direct demands to act with absolutely no option left to the student.

Vertical Dimension:

Help: This category includes asking the student to help in some way.

"Susan, help me pick up the toys."

Opinion: Inquiries about feelings or sentiments. Includes asking for any expression of desire, want, wishing, or hoping, and for value judgments not relevant to a specific act.

"Do you like the color green?"

"Is this a pretty city?"

Generalization: Includes solicitations of thinking to gain understanding or insight, and in particular, the asking for applications of an object or principle.

"Judy, for what other things can you use a pencil?"

"Think hard John. Why do people help others?"

Procedural Information: All requests for directions or instructions on procedure.

"How shall we do our arithmetic lesson today?"

Content Information: All requests for statements of fact.

"Who discovered America?"

Clarification: Includes all requests for communication to prevent or repair breaks in the flow of information exchange.

"What did you say, John?"

"Repeat what you said Jane."

Confirmation: Includes those acts wherein the teacher asks the student to explain how he was correct.

"Johnny, why did the green block fit in that hole?"

"How did you get that answer?"

Disconfirmation: Includes asking the student to explain how he was wrong.

"Why wasn't that correct, Sarah?"

Imitation: This category contains all acts whereby the teacher asks the student to reproduce an act she has just completed.

(The letter "e" sounds like.."EEEE"....)

"Say 'e', Jack."

Academic Verbal Performance: These are requests for the student to engage in verbal activity for the sake of practice in speaking, expression of ideas, and generally effective communication, to learn to make sounds and to make simple identification or naming responses.

"This is a picture of what, James?"

"Say the sound for the letter 'e', Joan."

Academic Non-Verbal Performance: These are requests for the student to engage in an academic activity that is not predominately verbal.

"Paint a picture now, Mary."

"Point to the letter 'A', Sam."

Conduct: These are requests from the teacher to do specific non-academic or procedural acts.

"Put your chairs back."

"Sit up straight."

"Tie your shoe."

GENERAL DESCRIPTION OF STANDARD SETTING CATEGORIES

States Reinforcement Contingency: Here the teacher points out the positive or negative consequences of an act or an anticipated act without directly forbidding or commanding that act.

"If you break that crayon you will not get another one."

Cites Principle: This behavior includes all instances where the teacher indicates a rule or policy exists to guide behavior that she either observes or expects to occur and where a concrete instance exists (contrast with giving opinion).

"Good little boys do not hit little girls."

Cites Other Child: Here the teacher refers to the behavior of another child (or abstract peer model) as a positive or negative instance of behavior.

"Can you do as well as Jack?"

Cites Teacher: Here the teacher cites herself as a model.

"I am smart, can you be smart?"

Challenges: These are prods to perform typically with allusions to the general difficulty of the task or the talents of the child.

"This is hard, Joseph, are you smart enough to do it?"

GENERAL DESCRIPTION OF FEEDBACK ACTIVITIES

Horizontal Dimensions

Knowledge of Results (K.O.R.): These are direct statements of right or wrong, truth or falsehood.

"Yes, Johnny, that is correct."

"No, Tom."

"Good." (When used to indicate correctness)

Contingent: These are statements indicating the judgment by the teacher of a piece of work done by the child.

"That is a pretty picture, Joan."

"You are sitting in your chair nicely, Cathy."

Non-Contingent: These are global rewards or punishments not associated with any particular activity.

"You are a good boy, Jack."

"The class did real well today."

Vertical Dimensions

Verbal: These are feedback given either vocally or by direct and conventional substitutes for vocalization.

Physical: These are bodily contacts made between teacher and child for the purpose of rewarding the child or of punishing him.

Material: Here objects mediate the communication. The teacher gives the child something or deprives him of something.

Activity: Here the teacher permits the child to engage in a desired activity; precludes the desirable activity; makes him engage in an undesirable activity all for the sake of reward or punishment.

GENERAL DESCRIPTIONS OF PERIPHERAL ACTIVITIES

Conversing: Here the teacher is merely *chatting* with the child or passing the time-of-day. These interactions are not categorized otherwise but an entry is made every 5-seconds that this activity persists.

In Contact but not Interacting: Here the teacher is in the psychological field but not engaged in interaction and an entry is made every 5-seconds.

Out of Contact: During the tape, when the teacher is out of the psychological field an entry is made every 5-seconds.

APPENDIX VIII

TRAINING SCHEDULE

GROUP A AND GROUP B TESTERS

SESSION I - (3 hours)

I. Ethics

II. Diplomacy

III. Handling Preschool Children

IV. General Procedures

  1. Research Office

    a. Assignments
    b. Materials

  2. Public Schools

    a. Relations with principals and other personnel
    b. Confidentiality of test and child
    c. Handling problems

V. Research Factors

  1. Importance of procedure - uniformity

    a. Instructions
    b. Prompts
    c. Difference between comparison of groups and diagnosing individual children
    d. Feedback

VI. Distribution of Materials for study

SESSION II - (3 hours)

I. Purpose and nature of each test

II. Administration procedure

III. Test instructions

IV. Demonstration of each test

V. Role-playing practice testing

SESSION III - (3 hours)

I. Practice testing of three preschool children on entire battery

SESSION IV - (3 hours)

I. Discussion of problems

II. Scoring

III. Review of procedure